TA 5111
F43
v.84

OHIO STATE UNIVERSITY
JUN 2 1931
LIBRARY

FIRE ENGINEERING

A consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

The Journal of the Fire Protection Profession

MAY 27, 1931

Where No Fire Department Is Organized, There Is Nothing to Do but Let the House Burn

ESTABLISHED 1877 PUBLISHED BI-WEEKLY

A Hose for Every Fire Department Need

THE MAN who buys fire hose without investigating Eureka Brands is overlooking 56 years of fire hose manufacturing experience ••• and the most complete line of quality fire hose that has ever been made ••

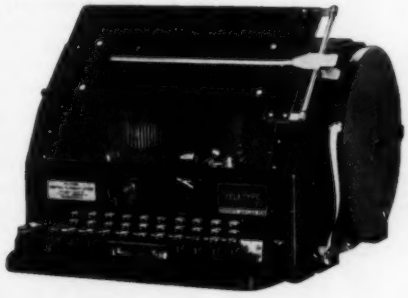
EUREKA FIRE HOSE MANUFACTURING COMPANY

50 CHURCH STREET, NEW YORK CITY

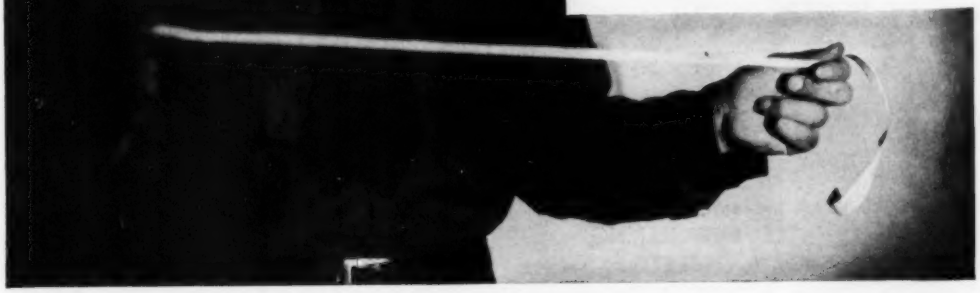
ATLANTA BOSTON CHICAGO COLUMBUS DALLAS DENVER DES MOINES DETROIT
KANSAS CITY LOS ANGELES MINNEAPOLIS NEW YORK PHILADELPHIA SEATTLE SYRACUSE

EUREKA FIRE HOSE

Teletype Is Adaptable to Fire Alarm Systems



● *Teletype prints the address and other particulars of a fire in a continuous line on a narrow paper tape, which can be torn off and carried by the driver. It operates just like a typewriter and has a capacity of 370 letters or figures per minute.*



This widely-used machine that typewrites by wire is ideal for fire alarm work

Teletypewriter Service

For many years Teletype has been employed by telegraph companies, press associations, railroads, air lines, police departments and other organizations requiring a speedy, accurate and dependable means of communication.

More than 65,000 machines, involving well over a million miles of circuit, are now in constant service. Thus it is not surprising that fire department officials are finding this time-tested device that sends typewriting by wire ideally suited to fire alarm work.

With the aid of Teletype your central office operator can flash a box number to any one station, to any group of stations, or simultaneously to *all* stations in less than two second's time.

In the case of a still alarm it is possible to transmit the exact address and have it recorded in legible typewritten form. Special circuits are not required for Teletype, as it can easily be applied to existing fire alarm or telephone wires. For further information consult your local telephone company or write the Teletype Corporation, 1400 Wrightwood Avenue, Chicago.

TELETYPE

SUBSIDIARY OF

Western Electric Company

The Journal of the Fire Protection Profession Since 1877

MEMBER
Audit Bureau of Circulations
Associated Business Papers

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

Published Every-Other Wednesday

SUBSCRIPTION PRICE
U. S. and Canada $3 a year; Foreign $4; Single copies 25c

Issued by CASE-SHEPPERD-MANN PUBLISHING CORPORATION
Also publishers of "Water Works Engineering," "Municipal Sanitation," Technical Books, etc.
24 West 40th Street, New York City
Western Office, 30 No. Michigan Ave., Chicago
Pacific Coast, 1045 Sansome St., San Francisco

KARL M. MANN, President and Advertising Director
FRED SHEPPERD, Managing Editor
I. HERBERT CASE, Vice-Pres. and General Manager
H. S. ESSEX, Advertising Manager; ROBERT H. LOCKWOOD, Editor; N. N. WOLPERT, Asst. Editor

EDITORIAL ADVISORY BOARD

JOHN KENLON, Ex-Chief, New York Fire Dept. Founder of New York Fire College
JOHN C. MORAN, Chief, Fire Department Hartford, Conn.
GEO. J. KUSS, Former Deputy Chief N. Y. F. D.; Lecturer on Fire Fighting, Delehanty Institute, N. Y.
A. A. BELL, Chief of Fire Brigade and Engineer "America Fore" Group of Fire Insurance Cos.

What'll You Have?

ARE you taking full advantage of the various services FIRE ENGINEERING willingly and gladly offers its readers?

¶ If you want any special information, or perhaps an authoritative opinion on some phase of your work—put it up to our Questions and Answers Editor. He'd rather help you than eat. If you have a problem that you'd like us to submit to other fire chiefs for their views, write our Round Table Editor. That's how he keeps the interesting "Round Table" featuring going in every issue. If you are in the market for any kind of fire equipment and want manufacturers catalogues, turn to the Catalogue Page, and send in the coupon. We will see that your request is handled promptly by the right people.

¶ So, let's hear from you. There's no cost to you whatever—It's our pleasure!

The Publishers

CONTENTS

VOL. LXXXIV No. 11

May 27, 1931

Competent Drivers Are Necessary for Fire Apparatus, by Joseph P. Hackett 379
Men Should Be Trained by Capable Inspector—Owners of Autos Do Not Make Best Drivers.

Fire Station Design As An Architect Sees It, by George Ernest Robinson 381
Should Be Constructed Substantially and Artistically Best Arrangement of Floors.

The Volunteer Fire Department, by N. N. Wolpert (Illustrated) 383
First of a Series of Articles Written for the Volunteer Fire Chief and Volunteer Fire Departments.

The Round Table 385
By What Method Is It Advisable to Remove 2½-Inch Hose from a Triple Combination Pumper—Nozzle First or Hydrant End First? Which Would Be the Most Efficient for Volunteer Fire Companies? How Do You Stretch Your Line—from the Fire to the Hydrant or from the Hydrant to the Fire? Why?

With the Editor 387
Comments on Current Events and Live Topics by Our Editorial Staff.

Questions and Answers 389
Replies to Questions on All Manner of Subjects on Fire Fighting and Fire Prevention.

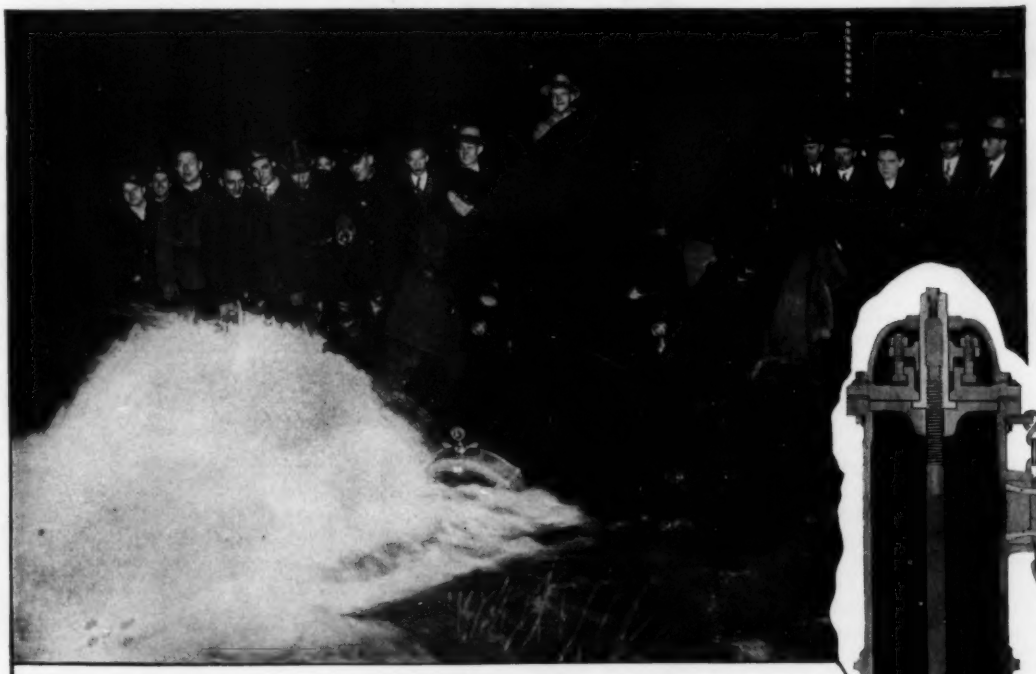
Recent Important Fires Specially Reported (Illustrated) 393
State Armory Destroyed in Buffalo, N. Y.—Burnings of Two Weeks.

Fire Department Improvements 401
Record of Business Activities in the Fire Protection Field.

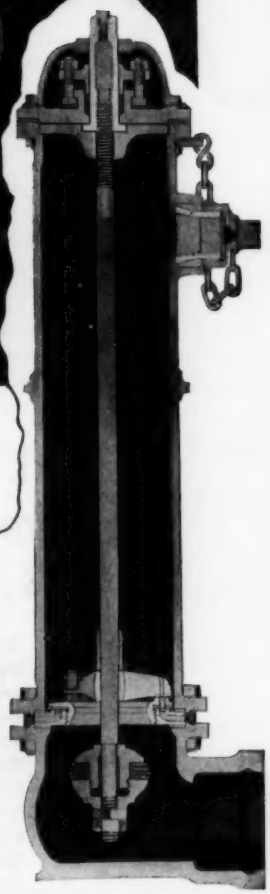
False Alarm 402
Humorous Side of the Fire Protection Profession.

Contents of this issue copyrighted, 1931, by the Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York City.
Entered as second class matter April 15, 1919, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

"HOWDY-DO" Said Mr. Auto, "I See You're Not a *DARLING HYDRANT.*"



"Howdy Do," said Mr. Auto to Mr. Fireplug and then look what happened! Machine, you see, crashed into Fireplug and broke it. A flood resulted with considerable damage to neighboring buildings. Workmen are shown above attempting to pull back auto so that water might be shut off.



If it had been a Darling Hydrant you would not read "a flood resulted" or "considerable damage to neighboring buildings."

The barrel of a Darling Hydrant is extra large, the walls unusually thick and made of the strongest metal. As a result the Darling Hydrant immeasurably better withstands the shock of auto collisions. Yet, regardless of what any impact could do to the exposed barrel, no water would escape. The main valve is the compression type and the pressure of the water in the main holds the valve against its seat until officially opened.

Of course this big, strong barrel of the Darling Hydrant means great collision resistance but it has another virtue of even greater importance. It insures a large stream of water to the nozzles at all times at a pressure equal to that in the mains.

Darling Valve & Manufacturing Co.
Williamsport, Pa.

New York Oklahoma City Houston Los Angeles

DARLING
FIRE HYDRANTS

658

CRASH!

3-FOLD principle of fire alarm transmission protects against broken boxes, pedestals and test posts

Skidding and careening motor vehicles on icy streets or in the hands of intoxicated and inexperienced drivers are each day knocking down fire alarm boxes, pedestals, and test posts. Even a backing vehicle in the hands of a careful driver is likely to add to the toll of accidents, which might break from one to several fire alarm circuits and put out of service, temporarily, scores of fire alarm boxes. Before such damage can be repaired, there is always the likelihood of an alarm for a serious fire being lost.

The new 3-FOLD principle of fire alarm transmission, being introduced with the new Gamewell 1931 Model PEERLESS Fire Alarm Box, safeguards against such accidents. Whenever a box (other than one involved in a vehicle accident) is operated on a broken circuit, it is possible for the alarm to be received at the central office over whichever side of the circuit remains intact.

Fire Chiefs, Superintendents of Fire Alarm and other city officials who have a voice in the purchase of fire alarm systems, owe it to themselves and to the citizens of their city whose lives and property it is the officials' duty to protect, to investigate the new 3-FOLD principle of alarm transmission. More complete information will be sent to you upon request.

THE GAMEWELL COMPANY
NEWTON, MASSACHUSETTS

"A Box A Block"

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers.*

FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXXIV MAY 27, 1931 NUMBER 11

Competent Drivers Are Necessary for Fire Apparatus

Owners of Private Automobiles Do not Always Make the Best Drivers—Men Should Be Trained by Capable Instructor

By JOSEPH P. HACKETT, Superintendent of Repairs, Newark, N. J., Fire Department

One of the important requirements of efficiency in the Fire Department is that the fire apparatus shall be handled by well instructed and capable drivers, so as always to be in the pink of condition, so that when the call comes the department may be well prepared to meet it. The following article, written by an expert on motor apparatus, will be found of interest along these lines:

THE first requirement for the successful operation of motor fire apparatus is great care in the proper selection of drivers. A careless driver will ruin the finest type of fire apparatus in a very short time. A good driver should have a cool head and be able to think and act quickly. Driving a heavy apparatus through the streets with the traffic conditions of today is a man's job. Drivers must not only watch out for their own apparatus and the men riding thereon, but must also be prepared for the careless drivers rushing out of side streets and those having no regard for any one but themselves.

The driver should make a careful inspection of his apparatus after each run, to see that all bolts and nuts are tightened; pay particular attention to brakes and steering gear; inspect springs for broken leaves; see that there is the proper amount of oil in the motor, water in the radiator, etc. He should make a thorough inspection afterward, no matter how short the run is, and report immediately any defects found. Many serious accidents have been prevented by a careful inspection.

Each company should have three good drivers, one to act as first driver, who should be held responsible for the condition of the car, and the other two assistants. The assistant drivers should alternate driving back and also occasionally drive to fires. One man doing all the driving is bad practice, for when the assistants are called upon drive, they forget all in which they have been instructed.

Pumper Drivers Should Understand Pumps

Drivers of pumping engines should be thoroughly instructed in operating pumps and the working of churn and relief valves. They should know just how much water will be discharged at different pressures. Preference in operating pumpers should be given to the steam engineers.

Drivers Have Little Opportunity for Experience

The Fire Department driver has very little opportunity for gaining experience, when you consider the mileage made by fire apparatus. A company that averages one run a day will not make more than four hundred miles a year, which under the two-platoon system divided among six men, gives them very little driving experience. A good plan, which could be fol-

"The Fire Department driver has very little opportunity for gaining experience when you consider the mileage made by the fire apparatus. A company which averages one run a day will not make more than four hundred miles a year, which, under the two-platoon system, divided among six men, gives them very little driving experience. A speed of twenty-five miles an hour is fast enough for any heavy apparatus. At that speed the apparatus will be always under the control of the driver. Drivers should be taught by a capable instructor. A careless instructor will make careless drivers."

lowed in the large cities, would be to have the men, after being instructed in the Fire Department, sent to some other city department to drive heavy trucks. Two weeks of this would give them more experience than they would get in two years in the Fire Department. Ninety per cent of the mechanical trouble and accidents are due to the lack of experience.

Men owning their own cars do not always make the best drivers. On their off time they do considerable driving and get so accustomed to handling light cars that when they are called to drive the heavy apparatus they are liable to forget.

Keep Apparatus at Control Speed

Speed is most essential to the Fire Department but the old proverb: "The more haste the less speed," should always be kept in mind. Fire apparatus having the right of way and having loud bells and horns, is no excuse for rushing through the streets at top speed. A speed limit of twenty-five miles per hour is fast enough for any heavy apparatus.

At that speed the apparatus will always be under the control of the driver. He should slow down to ten miles per hour when turning corners, and go slowly on wet pavements. When trying to stop a heavy truck on wet pavements, all the driver can do is to apply the brakes, which will stop the wheels from revolving but will not stop the truck. The only safe way is drive slowly up to a hydrant. Precious minutes are lost getting water on a fire on account of rushing up to a hydrant, then jockeying back and forth trying to make connections. Drivers should practice making hydrant connections and should know just how far to keep away so that a quick hook-up can be made.

Drive carefully. It is far better to arrive at a fire a few seconds late than to get half way, then have an accident and lose time in sending a special call and waiting for apparatus to come a greater distance to cover up the disabled company.

Capable Instructor Should Teach Drivers

Drivers should be taught by a capable instructor. A careless instructor will make careless drivers. The proper qualification for this office is a thorough knowledge of all the department apparatus, to be a good driver himself, and have the ability to impart the knowledge to others. He should rank as an officer and have the authority to accept or reject any pupil. He should attend all large fires and watch the operation of the pumpers.

Should Visit Stations and Examine Drivers

The Instructor should make frequent visits to the different stations and examine the drivers. He should take the apparatus out to a hydrant and let each one operate the pumps under various conditions and with different lengths and lines. He should show the proper setting of relief valve, make suction connections from river or pond, showing the importance of having all connections with good gaskets to make tight joints, having suction deep enough so as not to draw whirlpools and not have basket lying on the bottom, which will draw sand into pump. He should pay particular attention to the lubrication of the motor, running of motor at proper temperature, drain pump and connections after pumping in cold weather and he should have spark lever fully advanced.

No specified time should be set for completing the instructions. If after one or two lessons the pupil shows ability and interest to learn, he should be given all the opportunity possible. There has been considerable information given to him in a short time and he should be given a chance to try out each point.

Not only should he be told, but he should be given a practical demonstration. It often happens that a driver may be assigned to a company and then it transpires that a month or more may elapse before he has a chance to operate the pump at a fire. After two or three months the driver should be called back to the school for the purpose of a review.

Lubrication Studies Important

Very thorough instructions should be given in lubricating the apparatus. This portion of the schooling should be very carefully watched from time to time, to make sure that no part of the lesson can be overlooked. It is so easy and so simple a matter for the novice to forget all he has learned.

(From a paper read before the quarterly meeting of the New Jersey Fire Chiefs' Association at Newark, N. J.)

Tallman Chief of Corvallis, Ore.

P. L. Tallman, has been appointed Chief of the Fire Department in Corvallis, Ore., to fill the vacancy caused by the death of late Chief Tom R. Graham.

Mr. Tallman joined the Fire Department in April, 1911, and shortly afterwards was promoted to lieutenant of a hose company. He was next promoted to captain of the same unit. Tallman remained captain for some time and then was advanced to the rank of battalion chief. This was followed by promotion to assistant chief.

Chief Tallman has been trained in the principles established by the late Chief Tom R. Graham. For the past two years he has shouldered the responsibilities of the entire department while the former chief was trying to regain his health.

Chief P. L. Tallman

New House Empty

A new fire station of Georgian architecture is being constructed in Columbus, Ohio, but the city is faced with the problem of what to do with it after the house is completed. The city has no money to provide for the purchase of the necessary apparatus nor for the salary of the men to be stationed there. Although bonds could be issued, it was pointed out that the city has reached its bond issuing limit for the first half of the year. The only alternative is to transfer men and equipment from other fire stations in the city.

Colorado Firemen to Meet in August

The annual convention of the Colorado State Firemen's Association will be held at Grand Junction, Col., August 3-6. The association is considering holding a fire show during one of the convention evenings.

A fire college will be held that week. Motion pictures will be exhibited that are considered of great value to the smaller Fire Department. The fire college is headed by Capt. W. E. Carlin, Chairman, Assistant Chief Victor E. Roberts and Captain Spillane, all of the Denver Fire Department. Captain Spillane attended the Los Angeles Fire College.

The full program is to be announced at a later date.

Parker Elected Chief of Newark, N. Y.—Harry W. Parker was unanimously elected Fire Chief of Newark, N. Y., for his seventh term.

Fire Station Design as An Architect Sees It

Buildings Should be Constructed Substantially and Artistically — Best Arrangement of the Floors — Accommodations for Recreation

By GEORGE ERNEST ROBINSON, Architect, Boston, Mass.

The modern tendency in fire station design is to harmonize, as far as possible, the type and construction of the building with its surroundings. Thus in the residential sections, the bungalow or semi-bungalow style is more popular, while in the business and high value portions other varieties of design are followed. The following paper gives some excellent suggestions from one who is well qualified to speak on the subject of fire station construction:

IN the last few years it delights me to notice a change in many places of the attitude of the public toward the fire boys. They are performing such excellent service the public has to recognize it. My particular hobby is the housing of the department. I am going to pause at this time to go into the details from an Architect's way to show the construction of various types of buildings.

Fire Station Should Be Separate Building

Many new fire stations have been built in New England during the past year. Some fire and police stations have been built, a few fire stations and wire departments have been combined. I have always felt a fire station should be a separate building if possible. There have been many important developments in the signal system, and many new plants have been installed. Many alarm whistles have also been installed. In all matters that pertain to fire department improvement, the Fire Underwriters have always been a most valuable ally.

Great Variety of Design to Choose From

At present a Chief has many new and up-to-date quarters to look at in developing his plans. Most chiefs can get into an automobile and in a few hours visit several new and up-to-the-minute Fire Department buildings, which was not possible five years ago.

We who are pioneers in the work of Fire Department construction are pleased and flattered to note the standardization of many things, which by our association with Fire Chiefs we were able to perfect, and which have extended beyond the confines of New England.

Should Be of Substantial Construction

Fire Department houses are for use every day of the year and their construction should be of material of long standing, which will reduce to a minimum the cost of upkeep. They should be constructed of steel, concrete, brick and stone, with concrete apparatus floors and concrete or tile floors and roof above the apparatus room. Where appropriation is limited, mill construction of floors and roof may be used, as this form of construction is fire resisting.

Extent of Basement Excavation

As to excavation for the entire extent of the building, there seems to be a difference of opinion, the greater number favoring excavating only for heater room, coal pocket, oil tanks, and in some cases for hose drying, deeming a basement for the entire building an unnecessary waste of space and money. There are others who demand an entire basement and may find it of use for storage or other purposes, and in some cases a good basement serves a very useful purpose, especially where the contour of the land admits of an abundance of daylight.

Arrangement of Apparatus Floor

The apparatus room on the street floor should be so arranged so as to be without posts or other obstructions, thus permitting the movement of apparatus freely from one location to another without first running it out of the house. This room can have walls of concrete, salt glazed or common brick, slate or other stone, depending upon the taste of the building committee and the amount of money available. On the apparatus floor must be a signal room, supply room, storage room for soda and acids, closets for brooms, pails, etc. Drinking fountain, sliding poles from the floor above, with landing mats and other usual and required equipment. On this floor, in many cases, is located the fire alarm battery room and signal machine room, with fireproof walls and ceilings and connected with the main building by fireproof doors.

"Fire Department houses are for use every day of the year and their construction should be of material of long standing, which will reduce to a minimum the cost of up-keep. They should be constructed of steel, concrete, brick and stone, with concrete apparatus floors and concrete or tile floors above the apparatus room. Where funds are limited, mill construction of floors and roof may be used."

Ventilating the Apparatus Room

Off the apparatus room is usually a reception hall, a Chief's reception room and office with toilet, closets, etc. The size and construction of apparatus doors is most important. They may be double doors or Dutch double doors, equipped with Clay hardware, and for long life must be given special considerations, be constructed of the very best pine lumber, thoroughly soaked in pure linseed oil, and have three or more coats of lead and oil paint. It is important that the frames on which such doors are hung should be of steel that is built into the structure.

For ventilation of the apparatus room in some cases ventilating ducts with outlets are provided in the floor under each piece of apparatus, but in view of the fact that with large doors opening for the exit and entrance of apparatus, before the same are closed there is sufficient ventilation which, in the opinion of most men, makes unnecessary and wasteful the expense of ventilating ducts. In most cases the drainage of the apparatus floor is into a sand trap.

Location of the Machine Shop

The location of a machine shop will depend upon the lot available for the house. It may constitute a one story wing, containing the entrance hall, stairs to basement and second floor, battery and signal apparatus room. Wherever near the latter rooms it is important that they be surrounded by concrete or brick. The machine shop should be equipped with a suitable work bench and there should be hoisting machinery.

Arrangement of the Second Floor

The second floor should be arranged for the accommodation of the personnel and may be cheerful and homelike in its arrangement. The plan must take into consideration whether it is a call force, a permanent, paid, or semi-paid force. In some departments dormitories are in demand, while in others there are individual sleeping rooms. In most cases the individual house represents the opinion of the officials or is based upon the experience of some other department. Dormitories must be of suitable dimensions for the number of men they are intended to accommodate. Sanitation and ventilation are important.

Facilities for Comfort

Toilet facilities at suitable places within the structure demand that a wise selection be made so, that the cost of upkeep may be reduced to a minimum. Lavatories, urinals, closets and shower baths are here included and in some cases bath tubs are demanded by some who prefer it to a shower stall. The floor and ceiling can be of concrete

and the walls tile, marble, slate, etc., according to the money available, but often luxuries must be omitted in order to get a structure of proper size, with rooms needed for apparataus and personal lockers, one for each of the men. There must be ample closets equipped with shelves, pole and hooks, one of which should be cedar lined for storage of wool bedding and clothing. There should be a room provided for the care of bedding. A well arranged kitchen is necessary and in most houses they contain electric irons, stove, pressing board, sink, cupboard, etc., and an adjoining dining room or alcove is provided. A reception hall, library and common room can be made as cheerful and inviting as in the home.

Accommodations for Recreation

Recreation accommodations certainly keeps alive the fighting spirit. All the time of the men is not taken up in combating fires, shining brass, house and apparatus cleanliness, and in the inspection of property. With spacious land adjoining the building there can be base ball, tennis and other out of door sports. In most cases entertainment must be secured within the building and for this reason a room is set apart as a gymnasium where hand ball, basket ball, etc., can be played, as well as exercises such as a well equipped gymnasium furnishes.

Where the size of the department requires a drill tower and school should be provided and equipped. The drying of hose must be provided for and it may be in a tower or by the rack system, and whichever is desired the details of construction must be efficient for handling the hose. A clothes drying room for wet garments should in all cases be provided. The location of the Chief's office in Central Headquarters, or for officers in command in small houses, is a matter of choice, but as a general rule the office and sleeping room constitutes a two or more room suite with toilet, bath and closet. The office should have facilities for records, books and filing of papers, and where required a vault is sometimes provided. If there is a one story portion of the building, as is often the case, there is opportunity for a roof garden, which is most inviting in congested localities. In some cases the building construction permits of porches which afford out-of-door rest. The interior finish is a matter of choice, governed by cost, while that of furnishings is a matter likely to be passed upon by the Chief and Building Committee.

Students and Instructors Attending the Second Annual Texas Fire School at College Station, Tex.

The Plumbing and Heating Arrangements

The plumbing layout requires expert attention and ought to be constructed of suitable and enduring material of sizes sufficient to care for the sanitary sewerage, water supply and drainage. Faulty construction or a poorly laid out system will cost in upkeep far more than a rightly installed system. The choice of fixtures may be those of several well known manufacturers, either of which may be entitled to approval.

The heating of the building may be a low pressure one pipe steam, the cheapest in price, a low pressure two pipe steam, a low pressure type with vacuum return, modulating or control valves, all depending upon conditions both structural and financial. The apparatus room may be served by unit heaters, which takes out piping, while coils and radiators serve other rooms. An indirect water heater is desirable when the boiler is in use and in addition a summer water heater of size and tank storage capacity to serve the needs of the buildings and personnel. The proper laying out of the heating system will be indicated in the cost of operating the plant. There are several boilers specified, each of which will be found the equal of the other.

Layout of Electrical Service

In the laying out of the electrical service, attention must be given to the fire alarm service, the power and lighting service, and the telephone. Conduits that are concealed in the masonry walls and floors must be of proper size for present and possible future use. Outlet boxes and fittings must have proper alignment with the walls and finish. Branch circuits, switches and receptacles, sizes of wires for power and lighting, panel boards and cabinets, meter board, service connections, etc., must all coordinate for perfect working condition and long life.

A fire alarm building, isolated, is a branch of fire department construction which should require knowledge on the part of the Architect of the particular system which is to be installed. Such a building should be of fire resisting construction and if possible its location should be out of the path of a possible conflagration. My experience in such construction has prompted me in the past to cooperate with the experts of the fire alarm system and the results of construction and placement of alarm machinery have proved satisfactory to all concerned.

(Excerpts from a paper read before the annual convention of the New England Association of Fire Chiefs.)

Texas Fire School Well Attended

Some men traveled as much as 685 miles to attend the Second Annual Fire School, held at the Agricultural and Mechanical College of Texas, College Station, Tex., April 27-29. The registration showed an attendance of 315 students representing as many as 107 municipalities in the state.

Drills were conducted by six group leaders who are Chiefs or drill masters of large cities, and they in turn were assisted by thirty section leaders. In this way more individual training was accomplished. The men were so enthusiastic about the work that groups, worked many nights until 2:30 a. m., to master first aid work.

The school was in charge of Prof. H. R. Brayton. The following instructors assisted at the school: Dean F. C. Boulton, Dean of the School of Engineering; Prof. H. R. Brayton, Professor of Inorganic Chemistry; Chief Olin Culberson, Edna, Tex.; E. L. Mitchell, Dallas, Special Agent National Board of Fire Underwriters; Prof. W. L. Penberthy, Professor of Physical Education; Battalion Chief J. M. O'Brien, Drillmaster, Fort Worth, Tex.; Asst. Chief Wirt M. Wolff, Dallas; Chief J. G. Sarran, San Antonio; Asst. Chiefs, J. N. Richardson and R. D. Akin, Beaumont; Chief C. E. Griesser, Bryan; J. W. DeWeese, Fire Insurance Commissioner, Austin; Mayor Ross A. Marcus, Mission; C. E. Rakestraw, Federal Board for Vocational Training, Washington, D. C.; N. S. Hunsdon, State Supervisor of Vocational Education, Austin; Prof. E. L. Williams, Department of Vocational Education, Texas A. & M. College; Battalion Chief C. E. Kohlman, Drillmaster, Houston, and Chief George B. Goff, Oklahoma City, Okla.

The course included demonstrations of hydraulics of fire streams and training in drills.

Pumper Delivered to Anthony, Kans.—A Boyer 500-gallon pumper has been delivered to Anthony, Kan.

Benefit Concert Held in Boston—As a result of the benefit concert given by the Boston Fire Department in Symphony Hall the widows of three Boston firemen who met death in performance of duty during the past year were each presented with a check for $1,000. The ceremony took place at Fire Headquarters with Fire Commissioner Edward F. McLaughlin officiating.

THE VOLUNTEER FIRE DEPARTMENT

By N. N. WOLPERT,
Assistant Editor, FIRE ENGINEERING

MONEY! Possibly it's the root of all evil but it is the foundation of every volunteer fire department. Unlike the city controlled organization, the volunteers must raise their own funds, often buy property on which they erect their own fire hall, purchase their own apparatus and even meet the incidental operating expenses. Sometimes the village contributes a small amount towards the operation of the department but such a practice is not universal.

How then shall the volunteer firemen raise money with which to organize a department, or maintain it if it is already established?

There are three avenues open, each of which is as much a part of the volunteers as the rubber coat or boots—dances, carnivals and shows.

The biggest venture of the three is the carnival. It can be operated either by inviting a commercial carnival organization to "play the town" under the auspices of the firemen, or the firemen, if they are more energetic, can construct their own booths, purchase their own carnival merchandise, hire or make arrangements with some one operating "rides," and then conduct their own carnival. The latter method is to be preferred but it means more work.

Companies Operate on a Percentage Basis

A number of companies invite negotiations for bookings. They come into a town with their equipment, install the booths, set up the "rides" and even provide carnival attractions. One fireman is generally detailed to each booth to act as cashier and to keep account of the receipts. The company will give a guarantee of $1,000 (depending upon the size of the town and how much they believe it possible to take in during carnival week) so that the firemen are always assured of a minimum income. The company gives a percentage, say fifteen per cent, of the net profits and a flat sum of $5 or so for every booth erected. All of the figures given are not definite, for a great deal depends upon the size of the municipality and upon economic conditions. At the present time, guarantees are not so large for many of the one-industry communities have been faced by an exodus of wage earners, and the buying power is not as great

Local merchants are not in sympathy with carnival companies. Such organizations take with them the greater percentage of unattached dollars and flood the community with cheap merchandise. However, they are more receptive to the locally operated out-door carnival.

First of all it is necessary to appoint a large number of small sized committees to carry out the various features of so extensive an enterprise. The word extensive should not frighten any one away from the scheme—it should make one realize that there is a large amount of detail work to be done.

The following committees are needed: Publicity, Accounting Committee to which all bills and receipts should be referred, Construction Committee, Refreshments, Purchase, Shows and so forth.

Determine on the number of booths that should be erected, and how they are to be placed. The booths should be arranged on the carnival grounds in the form of a horseshoe so that the sub-conscious suggestion to leave the ground is absent. It is only by facing one direction that it is possible to see the exit. Also remember that booths near the entrance or exit are not the moneymakers. When visitors enter the grounds they want to see some of the sights before they start spending; the last booth is generally slighted for that is away from the greater part of the crowd and the noise of the barkers.

In the center of the horseshoe should be space for a refreshment stand that can be operated from four sides, a merry-go-round and some spot that will be used as the stage for the nightly show attraction.

Without a merry-go-round the carnival appears to be flat. The merry-go-round furnishes the picture of motion to the scene, provides music and is as essential as the clown to the circus.

To prevent the crowds from leaving the grounds at an early hour, it is best to contract for some professional carnival act, and plan to have a change of acts so that the town folk will want to come several nights. These acts are exhibited at 10:30 or 11 p.m., depending upon local conditions. While they entail an expense that does not result in a very tangible result, they are the real drawing card after the novelty of the first glimpse of the carnival has worn away.

Local talent in connection with contests may be used. For example, prizes may be awarded to the young ladies who make the best time in climbing a fire department ladder. Then again on a brightly illuminated platform, a fashion show could be used as the showpiece. The secret is to use plenty of pretty girls. Remember at this time no one is interested in the firemen—the girls are the ones who really matter. And local girls displaying merchandise of local or nearby merchants present a business combination that is not to be slighted.

Presenting the Merchandise or Prizes

Now about the booths. While they are cheaply constructed, they should be solid enough to support the weight of individuals who delight in leaning on the counters. In the back should be shelves for the display of merchandise to be awarded as prizes. The shelves should always be filled. If the consumer is granted the choice of a prize, he likes to feel that there is a large selection.

An attractive background presents a very strong buying appeal. There must be backs to the booths. I recall one very well conducted carnival where the backs were partially covered by cheap muslin. During the evening it was found that youngsters had reached their hands in through the back and had stolen small amounts of merchandise.

The usual procedure for dispensing merchandise is to give it as a prize for some game of skill such as darts, bingo prizes or for the lucky number as selected by a spinning wheel. The best way, if it is at all legal, is to have the counter covered with oil cloth marked into squares on which are painted numbers to correspond with those on the rotating wheel. The players place their money in the square of the number selected. Generally the same company that will rent the wheels will provide the oil cloth sheet for the counter. However anyone handy with a paint brush can make a few covers without any trouble. In operating the wheel, to make the most money, follow the tip of the carnival men and "spin the wheel short." That is do not wait until all the num-

Photo by Ewing Galloway

A Holiday Crowd Gathered at a Carnival

bers on the cloth have been covered. If all the numbers are covered, it means that each time the wheel is turned, some merchandise must be given out. If there are some blanks on the cloth, there is a chance that the firemen will be the winner and then the spin will result in all income and no expense. Of course, there is also a chance that merchandise will be given out on a "short board" but the odds are very much against it.

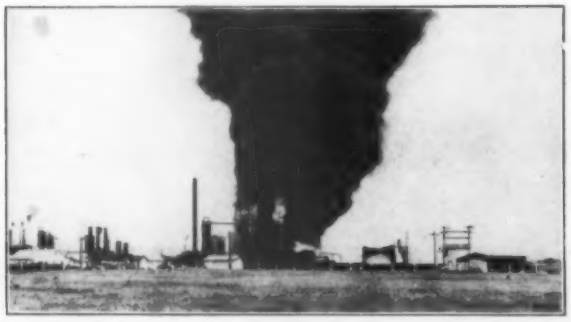
There are certain booths that always seem to attract a crowd. In this group may be included the ones dispensing baskets of groceries, hams, aluminum ware, and the bingo table. The ring toss game for canes or small articles is at present out of favor.

The bingo table is a money-maker. There is considerable logic to this for the game prolongs the period of excitement while with a wheel or some game of skill, the period during which the player is thrilled (to use the everyday expression), is comparatively short. It is possible for seventy or more persons to play the game at one time and because of the receipts, the prizes may be more costly. Give large sized prizes. Small ones are generally tucked under the arm or hidden away in a pocket. As one walks about the carnival ground with a large object such as a basket or so forth, that person serves as a compelling advertisement that it is possible to win prizes.

Previous to the opening of Carnival Week, distribute books to the firemen for chances on some large item such as an automobile or an electrically operated refrigerator. When the booths are opened, the items should be placed on display in a conspicuous place and a number of girls working under the general direction of one or two firemen, must be in the immediate vicinity of the prizes, to sell chances. In some localities it is not legal to hold raffles and in printing the tickets, it is necessary to use the following phrase or something similar: "I donate twenty-five cents to the..... Fire Department."

On the outside of this magic circle of booths and entertainment, there is still one more important thing to be erected—the supply tent. A member of the committee and his assistants are stationed in this tent to give out the supplies each evening for the various booths and to store the merchandise after the carnival closes for the evening. Some truthworthy person should be hired to watch the merchandise during the time when the committee members are not present. Perhaps the treasurer or accounting committee can be stationed here to give out five dollars in coins to each one in charge of a booth, for making change, and then to collect the night's receipts.

In purchasing merchandise for the fair, buy as much as possible from the local merchants or permit them to submit bids. As business men they will know that the cheapest man usually is awarded the order. No hard feeling or ill will will result if they are permitted to submit an estimate of what merchandise in large quantities will cost. Remember that the local merchant will remain in business long after the carnival tents have been folded up and have vanished. It is the local merchant who furnishes the prizes for tournaments, buys tickets for dances, and in general is the first line of financial support for the department. Do not antagonize these men.



Three Employees Killed by Oil Refinery Blast

Fire, of which all evidence of origin was destroyed, in the plant of the Panhandle Producing and Refining Company, at Wichita Falls, Tex., resulted in the death of three men employed at the plant. One man, who was credited with saving the entire plant from destruction because he groped through the flames and succeeded in shutting off circulating gasoline, died later from burns. The other two men were caught inside the building.

The local power company should be directed to string plenty of lights around the grounds. I know of one town that strung a line of colored lights from the business section to the lot where the carnival was held so that the public would be induced to follow the illuminated trail to the chosen spot. And don't forget your publicity committee. If these men do their job well, considerable of the chance element will be removed. Should they be lax in their duties, the other committees will have to work that much harder in order to secure a profitable week.

Fire Department Show

During the winter months, some Fire Departments have found it possible to raise money by staging an amateur show. Chief E. D. Yeck, of Flora, Ill., who has had some experience in this work said:

"I believe the spirit of the home talent show will never die out. Show me the wife that would not like to see her husband make a fool of himself in public as he has often done at home."

However, it is not necessary to draw crowds because one makes a fool of himself. But it should be remmebered that each performer guarantees a certain ticket sale. Uncle Will and his gang and Cousin Matilda and her friends will surely be present to see whether or not the family has succeeded in developing some one with histrionical ability. It is upon this streak of human nature that the success of the old time minstrel show was established. When the Uncle Bills and the Cousin Matildas and the doting relatives of each of the fifty performers in the cast are herded into one large auditorium, the greater part of the ticket sale is guaranteed. So if your department is planning to stage a show, be sure that it will have a large cast. Actually the entire play may be built about six characters, but visualize the possibilities of a mob scene or a large chorus! Remember, the show is being put on for the benefit of the department's treasury—all else is incidental.

Now for the other side of the story. As a mark of courtesy and appreciation to the individuals who participated in the show, it is necessary for the firemen to hold a dinner-dance or banquet in their honor. A large cast also means a long list of invited guests.

There are professional coaching companies who will come into a town, pick the cast, coach the show, supply the scenery and costumes in accordance with an arrangement similar to that of the carnival company. Then, too, there are professional coaches who will coach the show for a stated fee, and who will arrange for the scenery and costumes which must be paid for by the firemen.

One coaching company guarantees to put on a show in ten nights of rehearsals, and the result is amazing. The average time required is two weeks or more. For a straight comedy, the coaching time required does not matter much, but where musical numbers are used, it is different to select popular music that will still be fresh by the time the show is finally produced. Considerable tact must be employed in casting a show where men and young ladies are concerned. Even though all the performers may be amateurs, it is surprising how many can develop a good case of "professional temper," and slow down the tempo of the rehearsals.

Children nine years old or younger who are trained in stage dancing should be forced into the show. They help in making the show a successs.

Firemen should sell general admittance tickets which can be exchanged at the theatre for the regular reserved seats after a certain date. Besides these ticket-sellers, it should be possible to purchase tickets at several of the stores in town.

Another plan for raising money, although the returns are not as great, is to buy a motion picture theatre for a certain night, the management to keep a certain share of the proceeds and the firemen to be paid a percentage of the gross receipts. Very little work is involved and the results, even though they are small, are immediate.

The Firemen's Dance

Ever since the volunteer fireman became conscious of his personal appearance and expressed a desire to display his snappy dress uniform, it has been customary for volunteer firemen to hold a department dance. In the old days it was glorified by the name of "Reception and Ball" while now it is referred to as the firemen's dance or "hop."

The mainstay of this venture are the large army of fire fans and the local merchants. In return for the protection

(*Continued on page* 397)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE! Some one not easily excited had turned in an alarm in the manner directed.

Off in the distance could be heard the faint sound of the whining siren and the metallic sound of the bell as the apparatus was nearing the scene. Even before that, persons on the street had sensed that something was wrong. A crowd was collecting.

Sharper and more distinct sounds indicated that the apparatus was now but a block away. With a more piercing signal, it had rounded the corner and was now ready for action.

What should happen from that point on, does not seem very clear. In the best interests of Fire Department operation, should the apparatus carrying the hose proceed to the fire, drop the nozzle end of the hose off and then move back to the hydrant, or would it be more efficient to proceed first to the hydrant and then pull off hose.

There is a certain distinction in the two methods. Neither one can be proven the best.

In the box on this page is the problem that is discussed in this issue. In the box on the following page is the question that will be discussed in the next issue. Should you have some ment that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

HERE IS THE PROBLEM

By what method is it advisable to remove 2½-inch hose from a triple combination pumper—nozzle first or hydrant end first?

Which would be the most efficient for volunteer fire companies?

How do you stretch your line—from the fire to the hydrant or from the hydrant to the fire? Why?

Discussion of the Question

In laying a line from the hydrant to the fire, it is then possible to come back and stretch a second line, if an extra line is needed. The replies follow:

T. P. Treadwell, Chief, Fort Collins, Colo.: We lay in to all fires with first engine company as we have 90 pounds hydrant pressure and all large mains in the fire district. In the residential district we have not less than 80 pounds hydrant pressure and nothing smaller than 4-inch mains. We lay all first engine company lines through our engine and from engine to fire. We use 1½-inch lines from the engine to fire and we also bypass from pump to chemical lines.

For Volunteer Departments, lay the line from hydrant to fire as you have your tools and ladders, pike poles and axes at the fire. We lay from the hydrant to the fire so we can use the engine to attach to our 1½-inch lines, and if necessary we can use adapters and lay in reverse to first lay in.

J. H. Carlisle, Chief, Brawley, Calif.: There are two ways to look at this question. If the pumper is equipped with a boster tank and low pressure on the mains, I think it is the best to lay from the fire to the hydrant. If the fire is small, it can be handled with the booster tank or chemical tank, but if there is a good pressure on the mains I think I would lay in from the hydrant to the fire, but I would not load the lines until orders are given.

Wm. J. Mohr, Chief, Santa Monica, Calif.: The method used here is—plug to fire—we use a Blake 4 way on our triple combination apparatus.

Volunteer companies, I believe, would find the same layout satisfactory.

If it is necessary to lay a line, we lay from hydrant to fire, using a Blake 4-way fitting. The apparatus at the fire is provided with ladders, axes, etc. If it is necessary to use the pump, the appliances that would be required are off the truck by this time and the pumper can then return to the hydrant. After all connections are made the pump can be operated until the desired pressure is obtained.

We also have couplings to reverse the layout if an emergency arises. This system gives us a driver—fireman—whereas if our layout was from the fire to the hydrant the driver would be of no service.

H. Cash, Chief, Marion, Ill.: I think that removal of the hose from a triple combination pumper depends on your water pressure. Some cities have better hydrant pressure than others. I believe, where your city has good hydrant pressure, it is best to make your hydrant first.

But where the water pressure is not good, it is best to make your fire first and then go to your hydrant for your pumper connection. It is my opinion that this method is advisable for volunteer fire company use.

I make my fire first and then the hydrant for we use our pumper every time we hook up.

E. C. Haskin, Fire Marshal, Highland Park, Ill.: This department uses the method of nozzle first. Our reasons are that it is a faster hook-up and gives officers a chance to look over the fire and determine what means of extinguishment is necessary. Automotive traffic is a big factor, and the less evolutions apparatus and men are required to make means the less confusion.

Where one or possibly two men ride an apparatus in volunteer companies, the hose with a rope sling attached to coupling would be the best and surest way.

This department leads from the fire to the hydrant. The apparatus rolls to the location of the fire. All appliances such as hand pumps, chemicals or booster tanks are within close proximity of the blaze. It is then a matter of what extinguishment is necessary to reduce the loss to a minimum.

Thomas A. Qualey, Chief, Medford, Mass.: All hose in this department is packed in hose bodies with the female coupling out for hydrant connection, whether it is a combination or hose truck and in my opinion it is the most practical for all purposes.

I should say that what is practical for a paid company would also be practical for the volunteer companies.

We stretch our lines from hydrant when convenient but can stretch it either way and do so by using adapters, male and female. This equipment is carried on all apparatus.

V. H. Steele, Chief, Billings, Mont.: Hose should be loaded with the female end out so that the hydrant may be made first. Triple combination pumpers should carry a double female and double male connection, so hose

can be laid from whichever point is convenient. For volunteer companies load the hose so that the hydrant connection can be made first. It is far more easier to determine the location of the fire than the hydrant.

Lines are laid from the hydrant to the fire. We carry double male and female connections so that we can lay the lines either way. Two pieces of apparatus answer all alarms and this is a large factor in determining which method the department should follow.

L. L. Moore, Chief, Durant, Okla.: We remove 2½-inch hose from our triple combination pumper nozzle end first, that is, lay from the fire to the hydrant. We use a partition in our hose body and can lay two lines at once if desired. We start our load in the body by leaving one female end of 2½-inch hose extending out of rear of hose body in order to be able to reach and get the male end on top of the load on the other side of the partition and make it up on bottom side on the other partition in order to exhaust a complete load on a long layout.

On apparatus without a pumper, we handle the load and layout just the opposite—lay from hydrant or pumper to the fire. We use this layout in order to save time and man power—our ladders and salvage equipment are carried on the apparatus without the pump for this unit is always at the fire after lines are laid.

This would be my layout for a paid, part paid, or volunteer department.

G. S. Towle, Chief, Larchmont, N. Y.: This department always "backs up" a charged line by a charged line. We stretch from the fire to the hydrant.

A majority of our fire council consider this necessary to save time and avoid confusion.

It requires about 64¾ gallons to fill 500 feet of 2½-inch hose.

The pipe cannot "come open" as the men who take the pipe in will remain at it.

Of course, if lines are stretched from the hydrant to the fire, time must be given the men at the head end to take out enough hose to operate on fire, disconnect, and place pipe on line.

In our case, the men at the pipe have to wait for water until combination pumper and hose car arrives and connects to the hydrant. Usually they have to wait long enough to be ready for the water when it comes.

T. O. Flowers, Chief, Rock Hill, S. C.: Your questions are very pertinent ones, and have long since been debatable ones. My twenty-eight years' experience as chief of the Fire Department has taught me that everything in connection with a volunteer Fire Department must be simplified and made "fool proof."

Whether from a pumper or hose car, I would suggest hydrant end first. I stretch the hose line at all times from the hydrant to the fire to save time and because it is a simple fool proof proposition for a volunteer company. For a paid department my views might be different.

W. P. Bear, Chief, Columbia, Tenn.: We place all hose on equipment to lay out from the fire to the hydrant or pumper, if laid from hydrant to fire the pumper has to return to the hydrant and some valuable time is lost. If from the fire to the hydrant, the pumper can be put into operation by the time the nozzle men are placed at the seat of the fire. I think this method is the most practical for both the paid and volunteer departments.

Henry J. Hyatt, Chief, Fitchburg, Mass.: In our city we have very good hydrant pressure so we seldom use a pumper. Therefore it is more practical for us to load our hose so that it comes off at the hydrant first. We carry reverse couplings on our pumps as it sometimes is necessary to lay from the fire to the hydrant and then use the reverse couplings. If it was a case of always using a pumper, nozzle first might be all right at times, but hydrant first with reverse couplings seems the best way to me.

C. L. Ingram, Chief, Montgomery, Ala.: If the pump is to be used, we think it advisable to take the nozzle end from the truck at the fire and lay back to the hydrant.

We think volunteer departments would find that to lay from the plug to the fire would be more efficient.

We lay from the hydrant to the fire then from the fire to the next hydrant.

J. B. Gordon, Chief, Newport News, Va.: We consider the removal of the hydrant end of hose from a triple combination, best for the following reasons:

Our hydrants are so located (especially in high valued districts) that upon arriving at a fire we find it necessary to lay hose lines; the triple combination will lay a hydrant stream and then continue on to next hydrant, hooking in. The hose wagon will also lay hose line from another hydrant and then continue to the triple combination from which pump streams are laid. In this manner we have hydrant streams upon fire and can follow in with pump streams without any delay.

I believe this to be the most efficient method for volunteer companies, inasmuch as when laying from a fire to a hydrant there is a probability of not pulling enough hose from the wagon to cover the burning area, therefore, causing considerable delay.

R. Hawcroft, Chief, Reno, Nev.: We carry hose on a triple combination to lay from the fire to hydrant. The use of double male and female couplings will allow laying a line either way. You can lay a line from the hydrant to fire and then lay another line back to the hydrant or pumper by the use of double couplings—male or female couplings on either end of the line.

A. Pippel, Chief, Grand Haven, Mich.: Grand Haven is a city of 8,000 inhabitants. The Fire Department has one 1,000 gallon American-LaFrance triple combination pumper, and one Reo 2-ton combination chemical and hose. The chief and drivers receive full pay and the rest of the personnel are part paid. We stretch the first line of 2½-inch hose from the hydrant to the fire using quick couplers on this line. The second line is laid from the fire to hydrant using double male and female couplings. We carry fittings to lay 4 lines this way. Our hydrant pressure is from 70 to 80 pounds giving us efficient streams to start fighting a fire. By laying a line from hydrant to fire, the line is always ready. Should we start to fight the fire with chemicals and find that we haven't sufficient chemicals to extinguish the fire, we can turn the water through the chemical hose or if the fire is getting the best of us we are ready to attack it with the 2½-inch line. This method has proven very satisfactory.

H. J. Callahan, Chief, Fort Dodge, Iowa: Hose is taken from all pumpers, hydrant end first. One pumper that operates exclusively in the high value district takes the hose off nozzle first.

I am of the opinion that stretching from the hydrant to the fire is the most logical for nearly all departments unless it is necessary to hook up pumpers every time water lines are to be used.

We stretch in from the hydrant to the fire and hook up the hose to the engine inlet. Then 1½-inch and 1-inch are used on the fire. This leaves the engine in front of or at the fire where necessary tools can be secured very easily.

This method of course could not be used except where there is ample hydrant pressure.

S. J. Flores, Chief, Shreveport, La.: To remove 2½-inch hose from a triple combination pumper I believe it best to do it from the hydrant end first.

If the volunteer fire company intended to use pumpers at every fire—lay from the fire. Ninety-five per cent. of the fires should be extinguished without the pumper. In this case, lay from the hydrant.

We stretch our line from the hydrant to the fire because it is faster and should we need a pumper on the line laid, the pumper following will drop in on this line, and the apparatus that has been emptied will drive over to the next hydrant. If it should be a chemical fire you

(*Continued on page* 396)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Does the enforcement of fire prevention measures in your city fall within your jurisdiction?

Does the recommendation for installation of fire walls and shutters, and fire prevention construction and equipment rest on your depart-

What other fire prevention measures, particularly as applied to business buildings and industrial establishments are under your jurisdiction?

With the Editor

The Fire Station as a Lodging House

In a certain mid-Western city the tender hearted City Council voted recently to purchase cots and allow unfortunate transients to be lodged in the basement of the fire station. It seems that, lacking a city lodging house, heretofore such undesirable citizens had been given shelter for the night in the power house of a Water Company. This, however, proved finally to be too much of a good thing for the corporation and it notified the Council that it could not any longer accommodate the city's guests. Naturally, the eyes of the Council members turned to the next most available spot, and this, as is so often the case, proved to be the Fire Department's station. The result was the vote by the Council to use the station—or part of it—as a city lodging house.

There was, to be sure, the city jail—but, unfortunately, the Sheriff refused to accept any such involuntary guests as these transients, without a warrant being sworn out against them for vagrancy. So the Council turned to the Fire Department as the usual catch-all for all municipal troubles.

It would seem that a city of some size—as is the municipality in question—should at once provide some plan to house unfortunates that come within its borders, so that such an action as this would not be necessary. At any rate, one of the last places that should be chosen for such a purpose is the fire house. In the first place, the valuable apparatus housed in such a building should not be exposed to the risk of damage or pillage by strangers of whose characters the city fathers know nothing. The apparatus might easily be put out of commission by thievery or vandalism from such a source.

Then, also, there would be the danger of the firemen contracting disease from these men, who, at best, are apt to be not in the pink of physical condition. And, lastly, the fire station should in every case be used for only one purpose—the housing of the men and apparatus of the department. To pervert it to any other use, is to reduce the value of the department as a fire-fighting unit and endanger the apparatus unnecessarily. The Fire Department of this particular city should take quick action to have this plan of making a lodging house of the station nipped in the bud.

The City Officials and the Chief

One of the most important elements in the efficient working of the Fire Department is the hearty cooperation and unqualified approval of the city officials. Without this assistance, the hands of the Chief are badly tied.

There should be a frank and open understanding between those in authority in the city or village government and the head of the Fire Department. They should meet together periodically to talk over in an amicable spirit the best interests of the community and the most important matters connected with the guarding of the municipality and its citizens against the dangers of fire.

The Chief should be supreme in matters connected with the government of his department and there should be no dictation from without as to the policies which he pursues in its control. He—if he is fit to be at the head of the department—should be capable of maintaining its discipline and of keeping the men up to the highest point of efficiency.

The same thing applies to matters of fire protection in the city. He should be the one to decide such matters and they should in all cases be referred to him. There is every reason for this. The head of the Fire Department has made a life study of the science of fire fighting; he is an expert in such matters, and thus to him must be left the decision of all questions connected with the fire safety of the municipality. If he is interfered with or hampered by city officials who know little of the matters connected with fire prevention, his prestige with his men will suffer and the Fire Department will be the loser in consequence.

In a city in which cooperation and a friendly feeling between the Chief and the officials exists the question of his prestige in such matters will not be questioned, as the city heads will recognize his abilities and will respect them.

Protecting the Farmer's Property

Farm buildings have been looked upon as an almost hopeless proposition in the event of a fire. They are usually inflammable wooden structures, there is rarely adequate protection in the form of a water supply, and even if this is provided, the needed pumps to force the water on the blaze are lacking. This has been the situation for years in the rural and farming communities. But gradually a change is taking place. At last the farmer is being awakened to the possibilities contained in mutual protection, and is rapidly taking advantage of them.

This has taken the form of rural or county fire organizations. In many such cases, efficient fire apparatus have been stationed in cities or villages adjacent to the forming districts to be protected, and arrangements made to man the fire engines upon the receipt of an alarm of fire from a farm. It is then only a matter of minutes for the apparatus to cover the distance to the alarm and in many cases the firemen will arrive in good season to save—if not the building involved—at least the remaining structures on the farm.

This new development is going to have a wide influence in reducing the heavy losses by fire in rural communities. It also will direct the attention of the farmers to the matter of fire prevention. They will instinctively take it up, now that the subject has been so prominently

brought to their attention, through the efforts in forming these rural organizations. Better fire-fighting facilities and a more careful observance of the principles involved in fire protection will be the result.

It will be only a matter of time when the farm buildings will be as well protected from fire as the more urban types of structures.

Aid Called for Portsmouth, N. H., Fire

Fire swept the McIntosh Building, a 5-story brick business and apartment block in Portsmouth, N. H., on May 5. Numerous other fires were caused by flying embers. Chief William F. Woods sounded a general alarm and called aid from Dover, Hampton, Kittery, York Village, York Beach, Eliot, and the U. S. Navy Yard.

The blaze originated in the rear of the ground floor and swept upward through elevator shafts and a waste paper chute. A large stock of furniture owned by the McIntosh Furniture Company added fuel to the flames which raged uncontrolled for several hours.

The building contained stores on the street floor with apartments on the upper floors. Sparks ignited buildings owned by the Concord and Montreal Railroad, H. A. Yeaton & Sons, grain dealers, and the office, and stable of the Consolidation Coal Company on a north end wharf. With the aid of the navy tug "Penacook" and the local tug "Mitchell Davis" the firemen saved the large coal pockets adjoining the dock.

Aerial View of the Portsmouth, N. H., Fire

All fire apparatus in Portsmouth, N. H., and fire companies from nearby municipalities were called to fight this fire that was considered the worst blaze that had visited the city during the past twenty-five years.

Nearly twenty different roof fires were checked before serious damage resulted. Two firemen were injured. The total damage was placed at $250,000.

HARRY BELKNAP.

Chief Lutz Talks to Volunteers

Chief William J. Lutz, of Wilmington, Del., addressed the members of the Del-Mar-Va Volunteer Firemen's Association assembled for their second annual convention at Smyrna, Del., on Wednesday, May 13. The executive meeting was held at 10 a.m. and the general sesion at 1:30 p.m.

Besides Chief Lutz, the speakers were Ex-Chief F. E. Soulé, Secretary of the Eastern Association of Fire Chiefs, E. F. Hoffecker and George R. Stevenson.

The new officers are C. W. Milligan, Cape Charles, Va., President; Fred A. Grier, Jr., Salisbury, Md., First Vice-President; L. W. Walker, Clayton, Del., Second Vice-President; C. C. Larrimore, Easton, Md., Treasurer, and W. A. Karpa, Cape Charles, Va., Secretary.

At present the association numbers forty-six member companies. The 1932 convention will be held May 11 at Cape Charles, Va.

New York Chiefs Meet in June

The twenty-fifth annual meeting of the New York State Association of Fire Chiefs will be held in Glens Falls, N. Y., June 9-11, in connection with the New York State Conference of Mayors. During the convention a Fire Chief's Institute will be held with Chief Joseph N. Sullivan, Utica, N. Y., President of the International Association of Fire Chiefs as presiding officer. Many prominent men have been invited to lecture at this gathering.

The tentative program of the New York State Fire Chiefs' Convention and of the Fire Chiefs' Institute follow:

Tuesday, June 9

9:00 a. m.—Opening of Conference and Associations, Headquarters and Registration of officials, Hotel Queensbury.
12:00 m.—"Get Together Luncheon," Ballroom, Hotel Queensbury.
2:30 p. m.—Joint session of Conference and Associations.

FIRST SESSION. 3:30 p. m. City Hall.
Opening of Convention. Chief A. G. Derra, President, Schenectady.
Welcome to State Fire Chiefs. Mayor Orville C. Smith, Glens Falls, Introduced by Chief William W. Gates, Glens Falls.
Response in Behalf of Members of Association, Chief A. G. Derra, Schenectady.
Reading of Minutes of Previous Meeting, Chief J. H. Golden, Secretary-Treasurer, Cohoes.

Thursday, June 11

Report of Secretary-Treasurer; Report of Standing Committees; Election of Officers.
7:00 p. m.—Dinner Conference, Ballroom, Hotel Queensbury.

FIRE CHIEFS INSTITUTE

Under the Direction of the New York State Conference of Mayors and other Municipal Officials and the New York State Fire Chiefs Association, Chief Joseph N. Sullivan, Utica, President, International Fire Chiefs Association, presiding.

Tuesday, June 9, 8 p. m., City Hall

Organization and Administration of a Fire Department. Lecturer, Chief Ross B. Davis, Philadelphia, Pa. Discussion.
Equipment of a Fire Department. Lecturer, Chief Edward Gieselman, Syracuse. Discussion.

Wednesday, June 10, 9 a. m., City Hall

Fire Alarm Systems. Lecturer, Everett Zeh, Superintendent of Fire Alarm. Discussion.
Fire Prevention and Building Inspection. Lecturer, T. Alfred Fleming, National Board of Fire Underwriters. Discussion.

2 p. m., City Hall

Ventilation. Lecturer, Acting Chief Thomas Dougherty, New York City. Discussion.
Reducing Fire Hazards in Buildings Under Construction. Lecturer, William B. White, New York Board of Fire Underwriters, New York. Discussion.

Thursday, June 11, 2 p. m., City Hall

Modern Methods of Fighting Fire. Lecturer, Fred Shepperd, Editor, FIRE ENGINEERING, New York City. Discussion.
Salvage. Lecturer, Chief Richard L. Smith, Pittsburgh, Pa. Discussion.
Presentation of Certificates of Attendance.

N. F. P. A. Adds to Staff

Robert S. Stansfield, Jr., has been added to the field engineering staff of the National Fire Protection Association. For the past four years Mr. Stansfield has been with the Associated Factory Mutual Fire Insurance Companies where he served as Inspector and Laboratory Engineer. Previous to that he was with the New England Telephone and Telegraph Company. He is a graduate of the Massachusetts Institute of Technology, Class of 1925.

Benton Harbor Wants Pumper—Benton Harbor, Mich., is considering the purchase of a 500-gallon pumper.

THE COVER ILLUSTRATION

The pitiful drama illustrated on the cover, takes place entirely too often in the rural section that is devoid of any fire protection. A farmhouse fire is generally a hopeless thing. The building is often located away from an adequate water supply and remote from the protection that is afforded by an organized Fire Department. The best that can be hoped for in such a case is for the neighbors to try to carry out as many household articles as the limited time will permit. The fire illustrated was in the vicinity of Mermilion, S. D.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Some Pressure Problems

To the Editor:

Will you please answer the following questions:

1. A pumper at 75 pounds pressure is pumping water through a 200 foot length of 2½" hose with 1⅛" nozzle. What would be the pressure drop at the pumper if another similar line were attached to the pumper? Will you kindly advise me in the form of an example, how to arrive at this solution and also explain why the drop in pressure is shown on the gauge?

2. How is velocity of flow figured out? Explain by an example.

3. When a pumper of 1000-gallon capacity is pumping water at a high pressure, say 250 pounds, will the stream issuing from the nozzle have the tendency to break earlier because it does not discharge its capacity under the pressure or is the stream an effective one?

A. L.

Answer: 1. If the pumper were of 600 gallons or more per minute capacity, there should be no pressure drop at the pump if a second line is put into service. It would, however, be necessary to speed the pumper up to take care of the additional load.

As long as the pressure of 75 pounds is maintained at the pump similar pressures will be maintained at the nozzles. What determines the pressure at the engine with varying load is the power of the motor. The limitation of power also limits the number of streams which can be taken from a pumper—assuming the pump itself has sufficient capacity to handle the number of lines attached to it.

Answer: 2. If it is the velocity from the nozzle which is to be considered, this may be secured by the following rule:

Velocity (feet per second) $= 12.1 \times \sqrt{P}$, where P is the pressure at the nozzle in pounds per square inch.

If it is the velocity in the hose which is desired, the velocity in 2½" hose is approximately one-fifth the velocity of the water passing through a 1⅛" nozzle attached to it.

As an example, the velocity from the nozzle in problem 1, where the nozzle pressure is approximately 44 pounds per square inch, will be $12.1 \times \sqrt{44}$.

$= 12.1 \times 6.63, = 80.3$ feet per second.

The velocity in the hose will be one fifth as much or one-fifth of 80.3, or 16.06 feet per second.

Answer 3. The condition of the stream depends entirely upon the nozzle pressure. While a large pumper may be operating at 250 pounds, the nozzle pressure may be moderate, such as would be the case where pumping through a very long line of 2½" hose. The condition of the stream, as noted above, depends entirely upon the nozzle pressure. If the pressure is excessive, there is a tendency for the stream to spray when it leaves the nozzle. At pressures usually employed on nozzles, the streams do not spray but where spraying is evident, it is usually caused by damaged tips.

Naturally, a stream which sprays badly cannot be fully effective for it will not have the reach nor solidity necessary to produce the desired results on a fire.

Salvage Work by Volunteers

To the Editor:

Will you please answer the following question and give as much information as you can?

Do you think that salvage work can be performed by a volunteer department efficiently?

We have a ladder truck and also a pumper. Recently we were inspected by the Fire Underwriters and they said that we were lacking salvage covers. We have four men attending the Salvage Corps School in G——— and our department is contemplating purchasing salvage covers.

Through your fine magazine we have learned many interesting and helpful things.

B. B.

Answer: Yes, salvage work can be performed efficiently by volunteer companies. It wasn't so many years ago that fire departments of even large cities did not feel that salvage work could be performed effectively by the fire fighting forces. This attitude has changed, however, in recent years, and some splendid records in saving of property from water loss have been made by fire departments in all sections of the country. Salvage work is now recognized as one of the prime duties of a fire department, and many volunteer departments are going into this line of work enthusiastically. In fact, one volunteer department in New York State (Nyack, N. Y.) has a company doing salvage work alone.

The preventing of water loss at a single fire would justify the maintenance of the company, particularly where the fire is in a comparatively large building with high value contents.

This point should be borne in mind: If the fire has spread so far as to require the services of all members of the department in combatting it, the chances are that it has spread too far to permit any real salvage work. On the other hand, the majority of fires are of such size that they can be handled by a portion of the fire department, and the rest of the members are free to do salvage work. That is why the underwriters recommend carrying covers on fire fighting trucks such as pumpers, ladder trucks, etc. The spreading of a single cover frequently means the saving of hundreds of dollars worth of property by protecting against water coming down from the floors above, and where a number of covers are spread, the saving of property may total thousands of dollars. Yes, volunteer companies can do salvage work efficiently, and it will not be long until salvage work will be considered as much a part of the duties of volunteer fire company as fire fighting.

Some "Yes" and "No" Questions

To the Editor:

At a recent examination for Lieutenants in our department the following "yes" and "no" questions were asked.

If you differ with the answers as given, an explanation would be appreciated.

W. E. G.

Question 1. Are standpipes ever used for other purposes than fire fighting? Answer. Yes.

Question 2. Does the installation of a sprinkler system in a lumber dry kiln provide sufficient protection against internal fires. Answer. Yes.

Question 3. Is heat transferred by radiation? Answer. Yes.

Question 4. Are there any metals which will burn? Answer. Yes.

Question 5. Is the use of wood permissable in the construction of a power panel board or support? Answer. No.

Question 6. Is a motor driven fan exhausting air and fumes from a room or building called positive ventilation? Answer. Yes.

Answer: The answers you have given to the questions

tally with those which we would give as applying over the entire country, and not to Buffalo alone. Not being familiar with the Buffalo building code, there may be some deviation from the answers, but applied generally, they are correct.

This refers particularly to the question regarding using the standpipe for other than fire purposes.

SURVEY OF FIRE SCHOOLS IN ALL STATES COMPLETED

Fire Service Extension Committee of the National Fire Waste Council Presents Report —Many Have Contributed to School Work

IN his report as Chairman of the Fire Service Extension Committee of the National Fire Waste Council, Clarence Goldsmith has tabulated just what is being done or has been done in each state concerning fire schools and short extension courses. The report shows that in sixteen states no marked effort has been made to establish schools. In addition to the schools, the Educational Committee of the International Association of Fire Chiefs has completed instruction pamphlets for short courses in fire colleges, some of which have been published. The others will be printed as fast as funds are available.

The report of the organization and conduct of the fire schools by states follow:

Alabama—No school has been held, but an effort is being made to organize a school.

Arizona—No school has been held and no attempt has been made to hold one.

Arkansas—No school has been held, but an effort is being made to organize a school.

California—A ninety-day course for instructors in fire engineering was held April 1 to June 27 at Los Angeles and was sponsored by the International Association of Fire Chiefs with the cooperation of the Los Angeles Fire Department, Mr. Ralph J. Scott, Chief; 32 chiefs and other officers graduated. A similar school was held under the same auspices in San Francisco, and plans have been made to continue the educational activities in this state during the year 1931 along the lines followed last year.

Colorado—A short course was held May 27 to 29 at Denver, Colorado, under the auspices of the University of Colorado (sponsored by the Colorado Municipal League, endorsed by the Denver Chamber of Commerce and the Denver Fire Department; the Fire College Committee of the Colorado State Firemen's Association, and the Fire Service Extension Committee of the National Fire Waste Council cooperating); number of firemen registered, 135. Plans are now under way to hold a similar school in 1931.

Connecticut—No school has been held and no attempt has been made to hold one.

Delaware—No school has been held and no attempt has been made to hold one.

Florida—School held May 7 to 9 at Daytona Beach, under the direction of the Fire Service Extension Committee and sponsored by the Florida State Firemen's Association; (Associated Fire Departments of South Florida and Florida League of Municipalities cooperating); total registration, 88. A District Fire School was held in Sebring on July 28 and was sponsored by the Florida State Firemen's Association; total enrolled at this school, 200. The days of June 10 to 12 have been selected for the next school and the program is in process of development.

Georgia—No school has been held, but an effort is being made to organize a school.

Idaho—No school has been held and no attempt has been made to hold one.

Illinois—A short course was held June 17 to 20 at Urbana, under the auspices of the Illinois Firemen's Association and the University of Illinois; total enrolled at this school, 252. A tentative program has been prepared for the Seventh Annual Fire College, which is to be held at the University of Illinois, June 23 to 26, next.

Indiana—No school has been held, although several unsuccessful efforts have been made to start a school.

Iowa—A short course was held May 20 to 23 at Ames, under the auspices of the Engineering Extension Service of the Iowa State College, (Iowa State Fire Marshal, Iowa Insurance Service Bureau, Iowa Firemen's Association, Iowa Association of Fire Fighters cooperating); number of firemen registered, 307. Practically the same program will be carried out at the Iowa State College during the coming Spring.

Kansas—Short course held at Salina, May 19 to 22, under the auspices of the Kansas State Firemen's Association and conducted by the Extension Division of the University of Kansas, and in charge of the Fire Service Extension Committee; registration totaled 205. The program for the 1931 school which is to be held at Topeka, June 8 to 10, has been prepared.

Kentucky—The Kentucky Firemen's Association held its Eleventh Annual Convention in Paducah September 2 to 4, and the program was mainly taken up with lectures and drills and training periods which were participated in by the major portion of those in attendance. Owing to the shape and topography of the state, it has been decided to conduct schools in the future along the regional group plan. The first one of these schools is to be held June 23 to 25 for the northern Kentucky group at Newport, Kentucky. A second school will be held in Louisville, Kentucky for the central Kentucky group September 1 to 3.

Louisiana—No school has been held, but an effort is being made to organize a school.

Maine—No school has been held and no attempt has been made to hold one.

Maryland—School held at College Park, September 2 to 5, under the auspices of the University of Maryland and the Fire Service Extension Committee; number of firemen registered at this school, 46, and these received certificates. Plans are being made to conduct a similar school during the coming year.

Massachusetts—No school has been held, but an effort is being made to organize a school.

Michigan—A school was held at South Haven, July 7 to 10, under the direction of the University of Michigan with the Michigan State Firemen's Association and the Michigan Inspection Bureau cooperating; attendance 350. The Third Michigan Short Course will be held at Jackson, Michigan, July 13 to 16.

Minnesota—School held September 22 to 26 at Minneapolis, Minnesota, under the auspices of the University of Minnesota with the League of Minnesota Municipalities and the Minnesota State Firemen's Association cooperating; number registered, 275. The program committee has already met and completed its program for the 1931 school, the date of which, however, has not been definitely determined.

Mississippi—No school has been held, but an effort is being made to organize a school.

Missouri—Two schools were held as follows:
St. Louis, May 5 to 7, under the auspices of Fire Service Extension Committee in cooperation with the Missouri Inspection Bureau and the St. Louis Fire Department; number of firemen in attendance, 300.
Kennett, September 16 to 18, under the auspices of the Fire Service Extension Committee in cooperation with the Missouri Inspection Bureau and the Kennett Fire Department; total firemen registered, 67.
The program has been completed for the 1931 Missouri Fire School which is to be held at Kansas City, Missouri, June 23 to 26. A regional school is to be conducted at Bonne Terre, Missouri, May 6 and 7.

Montana—No school has been held, but an effort is being made to organize a school, which it is proposed to hold July 13 to 16.

Nebraska—A school was held on October 21 to 23 at Scottsbluff under the auspices of the University of Nebraska; the Nebraska State Volunteer Firemen's Association, Nebraska Inspection Bureau, and Nebraska State Fire Service Extension Committee cooperating; attendance over 900. A similar school will be conducted this year under the same auspices at Norfolk, Nebraska, October 20 to 22, and the program is now being formulated.

New Hampshire—No school has been held and no attempt has been made to hold one.

New Jersey—No school has been held, but an effort is being made to organize a school.

New Mexico—School held June 4 to 6 at Deming, under the auspices of the Fire Service Extension Committee with the cooperation of the New Mexico State Firemen's Association and the Mountain States Inspection Bureau; attendance, 96. Plans are now under way to hold a similar school in 131.

New York—Regional schools were conducted in sixteen of the eighteen zones into which the state has been divided.

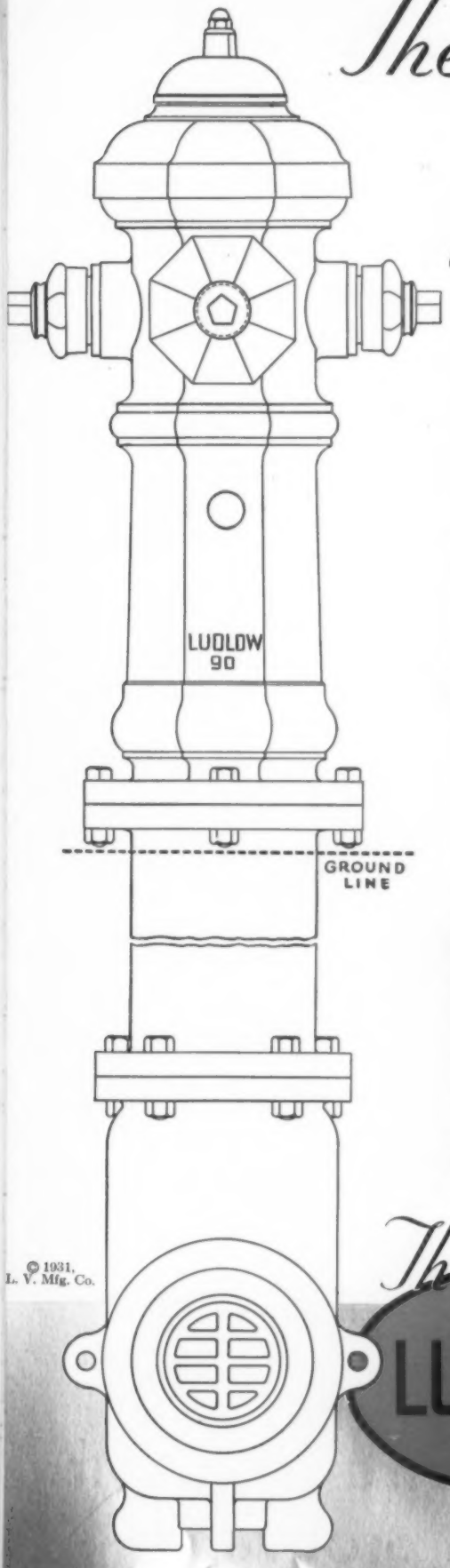
(*Continued on page* 398)

THE LUDLOW DIAMOND

a new self-illuminating Fire Hydrant that keeps pace with progress

The LUDLOW DIAMOND HYDRANT

four outstanding features



Massive, yet simple in line and perfectly proportioned, it harmonizes with modern architecture and is in keeping with the newer street lighting standards. Here is a hydrant that combines utility with beauty.

The Dome and Caps are octagonal in shape and so designed that when painted with aluminum paint they form reflecting surfaces that pick up the gleam of approaching headlights and serve to locate the hydrant instantly.

In harmony with modern architecture

The Hydrant Body ends in a flange just above the ground line. The Hydrant Bottom or Valve is connected to the water main at the proper level. And the two are joined by a flanged Connecting Barrel.

Self-illuminating reflecting surfaces

This method has two important advantages for you. (1) In case of breakage to the Hydrant Body, replacement is easily and quickly made without digging. Merely unfasten the old body at the flange and put on a new one. (2) Where before it has been necessary to stock hydrants of different lengths to allow for variations in grade, now one standard bottom and one standard body with several lengths of connecting barrels will suffice for all needs. This reduces inventory and simplifies installation work.

The new Ludlow No. 90 Hydrant Bottom has an improved gate valve that will not flood or freeze.

Through a few simple changes in design the lines of force are opposed and directed downward, relieving the valve stem and packing plate of all strain. When the valve is closed with the drip valve open, the mechanism is locked and cannot be released except by turning the valve stem. Damage to the Hydrant Body cannot cause a flood.

Saves labor, cuts inventory

The new Hydrant Body is protected with an umbrella dome that sheds water and guards the interior from rust and frost.

The entire mechanism can be removed from the bottom casting without digging or disturbing the valve seat. This mechanism is also applied to List Nos. 75 and 85 Hydrants.

A new folder which describes and illustrates the LUDLOW DIAMOND HYDRANT in full detail will be sent free on request.

© 1931, L. V. Mfg. Co.

The TRADE LUDLOW MARK

VALVE MFG. COMPANY

TROY, NEW YORK

MAKERS OF *DEPENDABLE* VALVES AND HYDRANTS SINCE 1866

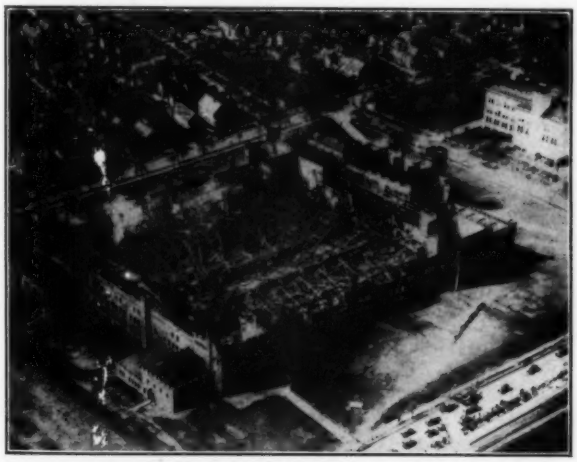
30 COMPANIES FIGHT FIRE IN STATE ARMORY, BUFFALO

Field Artillery Armory Reported to be Largest in Country—Fire Alarms Turned in and Nearby Departments Were Held Ready

THE serious dangers of frame construction and shingle roofs were brought out in a fire that destroyed the 106th Field Artillery Armory at Buffalo, N. Y., and caused embers to fall on many houses. The building was opened in January, 1907, and contained 93,000 square feet of floor space. It is reported that the armory was one of the largest in the country. The structure was of the usual construction for this type edifice. All the sides of the building were designed to contain company quarters, offices and so forth.

Although several investigations were started following the blaze, it is still considered to be of undertermined origin. When the fire was discovered, two Legion drill teams were on the large drill floor. A member of the team who was also a city firemen for five years noticed smoke curling up through the drill floor. He rushed out, turned in an alarm, and then ran back to fight the flames with a hose reel. The first alarm was turned in at 9:50 p.m. on Wednesday, May 6.

When the first companies arrived the entire central part of the basement was involved. The first alarm brought four pumpers, two trucks and one squad company. The second



Ruins of the 106th Field Artillery Armory

Note the mass of twisted steel inside of the walls that are standing. The photograph presents a striking idea of the large area covered by the armory.

alarm brought the same response. Four pumpers and one truck company answered the third alarm, and the fourth alarm brought a similar number of units. Special calls were sent for three pumpers and three truck companies. This left only seventeen pieces of apparatus as a reserve to protect the balance of the city. Departments of suburban towns were ordered to stand by for possible service.

The building was constructed of stone, steel and wood and occupied one city block. It had a standpipe with city water connections.

The companies found a sufficient number of hydrants served by 6 to 36-inch mains from which to obtain a water supply. Pressure at the hydrants ranged from thirty to fifty pounds. On the hose lines, 1¼-inch tips were used. Deluge sets and cellar pipes were brought into play.

Smoke helmets and resuscitation equipment were of immense value. Fifty firemen were overcome by smoke and it was necessary to send calls to headquarters for additional oxygen tanks.

In describing the fire, W. R. Castimore, Deputy Commissioner of Fire, writes:

"One's attention is again called to the danger of indiscriminate frame construction with wood shingled roofs. Had a strong wind been blowing instead of a mere breeze, Buffalo would probably have had a major conflagration. As it was, a church and several homes were badly damaged when ignited by flying embers in spite of the fact that the whole block immediately north of the armory is occupied by the Prospect Reservoir, an auxiliary of the city water system."

George W. Hedden, Commissioner of Fire, was in charge of the fire companies. It was not until 3 a.m. that some of the units were ordered back to quarters. Rain at 5:15 a.m., extinguished the remains of the fire.

Only outside walls remained standing. The heat was so intense that trucks and tractors were twisted by the heat. Continual streams of water saved the powder and ammunition magazine of the armory. A storeroom containing gasoline and turpentine was not damaged.

According to early reports the fire caused damage estimated at $7,000,000—$3,000,000 loss on the building and a $4,000,000 loss on the contents.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending May 15

	Loss in Thousands of Dollars
HARLANSBURG, PA.—Joseph L. Burton's stock farm barn destroyed	25
BENTLEYVILLE, PA.—Junior-Senior High School building destroyed	140
WATSEKA, ILL.—Property of People's Grain & Lumber Co. destroyed	25
POWELL RIVER, B. C.—Powell River Lake Shingle Mill Pl. destroyed	40
WEST DE PERE, WIS.—Pere Paper Co. mill and adj. prop. dest.	100
PHILLIPS, WIS.—Property of Albert Habel on Avon Ave. damaged	30
CHICAGO HEIGHTS, ILL.—John Whiel furniture store damaged	65
PHILADELPHIA, PA.—Plant of Penn Surgical Mfg. Co. damaged	45
HALIFAX, N. S.—Dalhousie College gymnasium destroyed	50
HAWTHORNE, N. J.—Sands Brothers ice house destroyed	35
EVANS, WASH.—Idaho Lime Co. plant destroyed	25
CARTHAGE, N. Y.—Sawmill of St. Regis Paper Co. destroyed	30
PEORIA, ILL.—Cohen Furniture Co. damaged	50
VIRGINIA, MINN.—Building occupied by Palace Clothing Co. dest.	80
LOS ANGELES, CALIF.—Consolidated Feldspar Corp. mill bldg. dest.	45
KINGSTON, ONT.—Administration bldg. of Royal Military College	80
PORTAGE, PA.—Bldg. of Johnstown Telephone Co., adj. property	50
CHICAGO, ILL.—Randall Furniture Co. factory	400
RIO GRANDE CITY, TEX.—C. Vallee Hardware Co. bldg.	35
ST. ESPRIT, QUE.—Parish church of St. Esprit	150
IRVINGTON, CALIF.—Whse. of C. S. Salz Co. destroyed	200
DENNISPORT, MASS.—Summer home of W. H. Noyes of Tenafly	25
NAUGATUCK, CONN.—Tolles bldg. destroyed	80
LEWISTON, IDAHO—Fashion Book Shop and Woolworth store	125
KENEDY, TEX.—Property of Kenedy Poultry & Produce Co.	30
HIAWATHA, KANS.—Farm property of Will Howard destroyed	25
CHESTER, MONT.—Business and residential property	25
KRESSON, PA.—Summer home of F. A. Downes of Haddonfield	25
LAKE CHARLES, LA.—Lagrange High School destroyed	80
UTICA, N. Y.—Middleton building damaged	150
LAKE FOREST, ILL.—Reid Hall at Lake Forest Academy	80
NEW BEDFORD, MASS.—Barn of Albert Osucz, Plainville road	45
HANOVER, N. H.—Christ Congregational Church destroyed	45
ANGORA, MINN.—Yards of Lester McDonald Sawmill	80
PORTSMOUTH, N. Y.—Consolidated Coal Co. and Eaton Grain Co.	90

Week Ending May 22

PETERSBURG, VA.—Whse. and plant of J. S. Ritchie Grain Co.	25
TROY, N. Y.—Bussey building destroyed	70
BEACON, N. Y.—Building at Camp Niggerdaiget destroyed	25
WAUTOMA, WIS.—Wautoma Publishing Co. and Lowe Beims store	45
WESTON, MASS.—Barn on estate of W. Cameron Forbes	25
BERLIN, N. H.—Hodgdon block, Main street, damaged	35
GLASSBORO, N. J.—Plant of Repp Products Co. destroyed	150
BEDARD, QUE.—Saw mill and lumber yard of I. A. R. Bedard	35
OAKLAND, CAL.—Plant of Oakland Laundry Co. destroyed	80
BOONTON, N. J.—Plant of Standard Railway Fusee Corp.	250
EVANSVILLE, IND.—Whse. of Evansville Basket & Crate Co.	25
DANBURY, CONN.—Several business establishments, Main street	25
GAINESVILLE, TEX.—Building occupied by Kennerly Hardware Co.	80
CLARKSBURG, W. VA.—Main building of Clarksburg Country Club	25
WILLIAMS BAY, WIS.—Property of A. W. Harris destroyed	40
FRESNO, CALIF.—Property of Levi Junk Co. destroyed	50
FLORENCE, S. C.—Plant of Sparrow Lumber Co.	25
BARRETTSVILLE, TENN.—Bus. prop. adjoining Bank of Barretts'e.	35
SOUTHERN PINES, N. C.—Southern Pines Hotel destroyed	165
PANAMA CITY, FLA.—Business property destroyed	60
LINCOLN, NEB.—Bldg. at Univ. of Nebraska Agricultural College	25
STEVENS POINT, WIS—Factory of Folding Furniture Works	80
ST. JACOBS, ONT.—Flour mill of Snyder Milling Co.	45
WESTERVILLE, OHIO—Generator room of State Theatre damaged	25
METROPOLIS, ILL.—Warehouse of Southern Illinois Milling Co.	25
STEINBACH, MAN.—Mill property of P. T. Baitman & Son	25
CALGARY, ALA.—Main barn at Hay's dairy farm	35
OSWEGO, N. Y.—Barn on farm of Nathan Woodworth, Nine-Mile Creek	25
TOLEDO, OHIO—Two warehouses of National Milling Co.	150
BOIESTOWN, N. B.—Business and residential property	25
SALINAS, CALIF.—Building of Salinas Valley Ice Co.	65
FAIRFIELD, ALA.—Plant of American Tar Co., 3 miles south	225
CARBONEAR, N.F.—Plant of Saunders, Howell & Co., Ltd.	600
OPELIKA, ALA.—First National Bank and two stores damaged	25

Pumper Expected at Poughkeepsie, N. Y.—Delivery of a Mack pumper is expected at Poughkeepsie, N. Y.

PLANS MADE FOR CONVENTION OF NEW ENGLAND FIRE CHIEFS

Boston Fire Department Band to Give Concert on Opening Day—Exhibits and Meetings Will Take Place in Mechanics Building

By HARRY BELKNAP

PLANS have been completed for the convention of the New England Fire Chiefs Association which is to be held in Boston on June 23-26 and Chief Henry A. Fox, of the Boston Fire Department, is busy finishing up the details in connection with arrangements for entertaining the visiting Chiefs and their guests.

Chief Daniel B. Tierney, of Arlington, Mass., Chairman of the Exhibit Committee, reports that practically all space has been contracted for except a few small sections which are still available. All the firms that usually exhibit will be represented this year and the display of apparatus and department supplies will be a notable one of diversified interest. The exhibits will be in the Grand Hall of Mechanics Building on Huntington Avenue and the meetings of the convention will be held in Paul Revere Hall which is situated in the same building.

On the opening day there will be a concert by the Boston Fire Department Band of 144 musicians in Copley-Square directly in front of the Copley-Plaza Hotel, convention headquarters. It is planned to have the band lead a parade of the Chiefs and their guests from the hotel to the convention hall, a distance of two blocks up Huntington Avenue.

Chief Fox is anxious to have a large attendance at the opening session on Tuesday at 2 p. m., when Mayor James M. Curley and Fire Commissioner Edward F. McLaughlin will deliver addresses of welcome. The annual memorial exercises will also take place at this time.

At 7 p.m. there will be a demonstration of high pressure streams by the Boston Fire Department at Dorchester Avenue and the Fort Point Channel near the South Station. The Boston fireboats will participate in this exhibition.

On Wednesday there will be business sessions both morning and afternoon with interesting topics listed for discussion by prominent speakers. In the evening there will be a smoker, round table talks, and entertainment.

Thursday will be devoted to exhibits and demonstrations with a short business session in the morning and a banquet in the evening.

The convention will close on Thursday after a business session and the election of officers.

George F. Cobb, 774 Albany Street, Boston Traffic Manager for the association, states that reservations for rooms at the Copley-Plaza and Westminster Hotels are coming in rapidly, but that there will be plenty of rooms to take care of all who are planning to attend.

Chief Selden R. Allen, of Brookline, President of the New England Association of Fire Chiefs, extends a cordial invitation to all Fire Department officials to come to Boston for the convention and urges those not now members to join the New England organization. Plans for the Havana trip in October are nearing completion and will be announced shortly.

Banquet Arranged for T. F. Burke

Thomas F. Burke, of Fall River, President of the Massachusetts State Permanent Firemen's Benefit Association, who recently retired on pension from the Fall River Fire Department, was tendered a banquet and presented with a gold watch by Platoon A of the Fall River department.

The speakers included Chief Jeremiah F. Sullivan, of Fall River; M. Joseph Manning, of Milton, Treasurer of the Massachusetts State Firemen's Association; and John J. Geary, President of the Fall River Permanent Firemen's Association. Among those present were Captains William F. Shay, Arthur B. Field, and John Coughlin, three Fall River fire captains recently retired; Fire Commissioner Cyrus C. Rounseville, Deputy Chief John Galligan, Fire Commissioner Wilfred Benoit, Daniel J. Looney, Secretary of the Massachusetts State Firemen's Association; Edward J. Powers, Frank Cook, Michael J. McGonagle, and Lieut. Frederick J. Dobbratz, of the Boston Fire Department.

HARRY BELKNAP.

New York Chief's Examination Set for June—It is expected that the examination to select the Chief of Fire Department, New York City, will be held about the middle of June. Thomas C. Murray, Director of Examinations, has submitted his report to the Municipal Civil Service Commission.

Massachusetts Chiefs Elects Officers

Chief Frank E. Tracy, of Woburn, Mass., was elected President of the Fire Chiefs' Club of Massachusetts at the annual meeting held at the Parker House in Boston on May 20.

Governor Joseph B. Ely, of Massachusetts, was a guest and made a short address. Others at the head table were Mayor J. Fred Manning, of Lynn; Chief Edward E. Chase, of Lynn; Chief Selden R. Allen, of Brookline, the retiring President of the club; Chief Henry A. Fox, of Boston; Chief Thomas H. Mahoney, of Westfield, Mass.; George F. Cobb, Traffic Manager; Ex-Chief Reuben D. Weeks, of Providence, R. I.; and Russell S. Codman, Jr., Chairman of the Boston Fire Department Band, Inc.

Among the guests were: Maxwell C. Hutchins, Massachusetts State Fire Warden; John P. Crowe, Assistant State Fire Warden; John W. Reth, Massachusetts State Fire Marshal; and Albert G. Dreyfous, Honorary Battalion Chief of the New York Fire Department.

Besides Chief Tracy the other officers elected are: Chief David A. DeCourcey, Winchester, First Vice-President; Chief Fred A. Clark, Attleboro, Second Vice-President; F. Burt Jaquith, Ex-Chief Randolph, Secretary-Treasurer; Ex-Chief Daniel F. Sennott, Boston, Chief Daniel B. Tierney, Arlington, and Chief Thomas H. Mahoney, Westfield, Board of Directors; Chief F. F. Dickinson, Brockton, Sergeant-at-Arms; and Chief Thomas A. Qualey, Medford, Chief Ray D. Wells, Falmouth, and Chief Joseph E. Kelley, Danvers, Auditors.

Chief Allen was presented with a past president's badge. The following new members were elected: Chief Albert C. Melendy, Nashua, N. H.; Chief U. Clapp, Paxton, Mass.; and Fire Commissioner John H. Carey, Fall River, Mass., active members, and Gordon P. Abbott, Jr., Manchester, Mass., associate member.

Upon a motion by Supt. Peter E. Walsh, of the Boston Protective Department, Chief Allen was tendered a rising vote of thanks for his service to the club while acting as President for the past two years. It was voted to hold the annual ladies' day in December in Boston.

Chief John W. O'Hearn, of Watertown, Secretary of the New England Association of Fire Chiefs, told of plans for the coming convention in Boston. Chief Fox, of Boston, also spoke on the convention and George F. Cobb told of plans for the trip to the International Convention in Cuba next October.

Kentucky Firemen to Hold School

The Northern Kentucky group of the Kentucky Firemen's Association will hold its first short course for fire fighters at Newport, Ky., June 23-26. The program follows:

Tuesday, June 23.

1 P. M.—"Fire Department Evolutions"—at Fourth St. School
Capt. S. G. Render, Louisville, Ky.
Followed by Round Table Discussions.
3 P. M.—Motion Pictures—at Hippodrome Theatre, "The Salvageman"—Fire Department Drill, Courtesy National Board of Fire Underwriters.
7 P. M.—Same as 1 P. M.
9 P. M.—Same as 3 P. M.

Wednesday, June 24.

1 P. M.—Actual Folding and Spreading Covers—Fourth St. School Grounds.
Lectures and Demonstrations—Capt. S. G. Render.
Round Table Discussions.
7 P. M.—Same as 1 P. M.
Demonstration of Salvage Work—J. J. Conway.

Thursday, June 25.

1 P. M.—"Ventilation of Burning Buildings"—Fourth St. School
Lectures and Actual Demonstrations—Chief Frank Northcutt, Covington, Ky. Chief Edw. Sherwood, Cincinnati Fire Department.
Round Table Discussions.
2 P. M.—"Fire Prevention by the Fire Department"—Fourth St. School, Chief Edw. Miles, Newport, Ky.
Round Table Discussions.
7 P. M.—Same as 1 P. M.
8 P. M.—Same as 2 P. M.

Friday, June 26.

1 P. M.—"First Aid and Life Saving"—Fourth St. School, H. L. Huber, Cincinnati, Ohio.
Round Table Discussions.
7 P. M.—Same as 1 P. M.

Neff Re-Appointed Chief of Grafton, Ill.—George H. Neff has been reappointed head of the Fire Department for the third time. The city is considering the construction of a combined fire house and police station.

NEW JERSEY CHIEFS WITNESS MADISON, N. J., CELEBRATION

Quarterly Meeting of Association Held in Morning and 50th Anniversary Celebration of Madison Firemen Followed

AN unusual program was arranged for the quarterly meeting of the New Jersey State Fire Chiefs' Association that was held in Madison, N. J., Saturday, May 23. Instead of the customary two sessions, all papers were presented at the morning session, and in the afternoon, following luncheon, a parade and other events marked the fiftieth anniversary of the local Fire Department. As many of the neighboring departments participated in the parade, a tone of color was added to the meeting by the Chiefs who appeared in uniform.

The meeting was held in the high school auditorium, with President Charles Greenfield presiding. He introduced Mayor Walter S. Speir, who welcomed the Chiefs. Madison has a per capita cost for maintaining the department of one dollar a year.

Prof. Joseph E. Pooly, Chairman of the Fire Committee, gave a rather amusing definition of a Fire Commissioner. According to Mr. Pooly, he is one who can get the most out of the Firemen for the least he can get out of the Council. He said that a Fire Department can be no better than its Chief.

President Greenfield responded to the speeches of welcome. Chris H. Hasselhuhn, Acting President, New Jersey State Firemen's Association, extended a word of greeting of his association and told of the benefits enjoyed by the Firemen in his state that are not common elsewhere.

Philip T. Bell, Police Chief, Kearny, N. J., and former President of the National Association of Police Chiefs, said that if Police Chiefs can cooperate with the Fire Chiefs in any way, at any time, that the Chiefs should feel free to ask for assistance.

Dr. Lynn Harold Hough, Professor of Homiletics, Drew University, was the main speaker of the morning and explained that his conception of a Fireman is one who has achieved a perfect coordination of arms, legs and mind. In times of stress each part of his body functions at the right time and there is no disorder. He said according to his studies the Volunteer Firemen are generally the ones who run the town. Organization results in comradeship and that makes the wheels of the town go around.

R. M. Cadman of the Standardization Committee reported that 78 per cent. of the municipalities in the state have adopted National standard thread, and that Morris, Atlantic and Sussex counties were completely standardized.

Chief F. M. Green explained the operation of the Teletype fire alarm system that has been installed in Morris township. There is one man on duty at a central station. When an alarm comes in by telephone, he has a standard card on which he enters the desired information, such as name, address, nature of fire and so forth. When the alarm comes in he presses a button which sets off sirens on all the fire houses in the township. As the Volunteer Firemen are rushing to their respective stations, this man sits down at the master typewriter of the system and types out the information received. This is printed on electrically operated typewriters in each of the stations. All the necessary information is received by the time the Firemen are ready to roll with the apparatus.

A number of questions presented by members were discussed at the meeting, such as the action to be taken because of the large number of calls to fight grass and brush fires, effect of long line pumping on apparatus and sprinkler protection for schools.

In the afternoon local and visiting Fire Companies, accompanied by many bands, paraded through the gayly decorated streets of Madison. Every few feet there were "Welcome Firemen" flags. The parade ended at a large recreation field where athletic and Fire Department contests were held.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Clare, Mich.—Albert Haley.
Leicester, N. Y.—John Lynch.
Milton, Wis.—Don A. Borden.
Glidden, Wis.—John C. Kneifel.
Driggs, Ida.—A. C. Wood.
Paulina, Ia.—Karl Seagren.
Decorah, Ia.—Theo. A. Moon.
Lake Placid, N. Y.—George Hare.
York Beach, Me.—Harley Ellis.
Caldwell, Ida.—Doyle Fender.
Sheffield, Ill.—Henry Johnson.
Farley, Ia.—I. E. Scherman.
Swan Lake, N. Y.—A. Sherwood.
Combined Locks, Wis.—Joseph E. Drexler.
Platteville, Wis.—Edward Robinson.
Cornell, Wis.—C. A. Waggoner.
Coachella, Cal.—H. E. Jewell.
Westbury, N. Y.—Thomas Walsh.
Salmon, Ida.—Dan O'Connellwas.
Warrensburg, Mo.—Sam Burge.
Zachary, La.—B. F. Hopkins.
Bessemer, Mich.—Paul Becker.
Albion, N. Y.—J. Wallace Eggleston.
Croghan, N. Y.—Oliver Martin.

Pittsburgh to Control Fireworks Sale

A bill has been passed by the City Council of Pittsburgh, Pa., that will regulate the sale of fireworks. Under the new law, dealers must take out a permit before June 15 of each year and pay a $50 fee. The application must be made to the Building Inspection Bureau. The law describes the kind of building in which the sale of fireworks is prohibited. Sales are limited to the period between June 25 and July 5, and can only be made to persons over twelve years of age. The sale of certain types of fireworks is prohibited.

The clause dealing with violations of the regulations provide fines up to $100 and in default thereof, imprisonment in the jail or workhouse up to thirty days.

Those Present at New Jersey Chiefs' Association Meeting in Madison

Chas. M. Allen, Basking Ridge
John W. Ambrose, Dunellen
E. S. Amerman, Morristown
Joseph B. Aray, Red Bank
John Anthony, Bogota
F. W. Atkinson, Moorestown
Aaron E. Baker, Maplewood
Edward Ball, Pompton Lakes
Harry J. Becker, South Orange
Frederick H. Bennett, Sr., Trenton
Albert J. Berchtold, Egg Harbor City
E. J. Berkeyheiser, Trenton
D. M. Barber, Chatham
W. W. Behr, Madison
Charles Beirn, Dunellen
Philip T. Bell, Kearny
Charles Biegner, Harrison
G. R. Bodme, Long Branch
Charles Bolden, Ocean City
Frank A. Brown, Newark
William Brown, Springfield
Charles J. Brady, Carteret
H. W. Breder, Egg Harbor City
Charles E. Burr, Bordentown
Charles Buono, Hawthorne
R. M. Cadman, Red Bank
A. T. Callahan, Harrison
J. H. Cavanaugh, Madison
Wm. W. Cavanaugh, Bernardsville
Albert Chamberlain, Hillside
Chas. S. Chandler, Elizabeth
Henry A. Christ, Milltown
James Clark, East Rutherford
Louis E. Clark, Morris Township
Joseph Coburn, Harrison
Thomas Coburn, Harrison
Geo. J. Coghlan, Morris Township
S. B. Conver, Ocean City
J. M. Conway, Newark
Arthur Coventry, Rahway
Harry Cozens, Kenilworth
William F. Crapes, Bloomfield
John J. Cullinan, Morristown
E. F. Daniher, Madison
G. H. Davis, West Orange
Wilbur F. Day, Morristown
F. C. Decker, Westfield
Clarence H. Dougal, Livingston
W. J. Dunn, Plainfield
Milton E. Engelbrecht, Bergenfield
N. S. Erhart, New York City
Arthur W. Evans, Morris Plains
Wm. Exall, Newark
Geo. E. Felch, Florham Park
Estelle M. Finnerty, Bloomfield
John Flynn, East Orange
J. S. Foster, Dumont
John Frank, Elizabeth
A. Gerstung, Elizabeth
John J. Gilday, Hoboken
Frank Gloor, Totowa
Chas. W. Goodwin, Barnsboro
F. M. Green, Morristown
Chas. W. Greenfield, Arlington
W. J. Groeger, Hillside
Samuel A. Gruver, Madison
Chris H. Hasselhuhn, Carlstadt
Benjamin Helmlinger, South Orange
F. A. Helmlinger, South Orange
Geo. L. Howe, Ridgefield Park
W. M. Hunter, Ridgefield Park
James Hutchinson, Totowa
Arthur Jarvis, Pluckemin
Charles Johnson, Harrison
Irvin Johnson, Ocean City
Frank Johnston, Gladstone
M. T. Kennedy, West Orange
Thomas P. Klimback, West Caldwell
John H. Klotzbach, Milltown
F. H. Knapp, Harrison
Geo. E. Koeber, Bloomfield
E. Lefkovitz, Carteret
Frank L. Lee, Morristown
Peter Luyke, Garfield
E. N. McAlister, Moorestown
Walter McClain, Medford
E. M. McCool, Bloomfield
J. B. McGrath, Madison
Frank McGuirk
James J. McMillan, Orange
W. A. Mahnke, Atlantic City
Jas. P. Markus, Hoboken
Joseph L. Masi, South Orange
C. E. Massey, Lumberton
Wm. H. Matthews, Orange
William Matts, South River
Thos. H. Mead, Red Bank
Roderick Meek, Bogota
John H. R. Meyers, Madison
V. T. Miller, Manasquan
George Mitchell, East Orange
Paul J. Moore, Newark
C. P. Morrell, Morris Township
Chas. J. Morris, North Bergen
O. Mortorsky, Deal
M. C. Murphy, Kearny
J. W. Myers, Boonton
H. S. Norman, Boonton
Joseph O'Donnell, Carteret
John W. C. Pape, Bergenfield
George Parnell, Perth Amboy
Geo. H. Peary, Bogota
Theodore M. Pennock, Mt. Holly
B. D. Philhower, Madison
Peter R. Peterson, Port Reading
Knowlton F. Pierce, Kearny
Thos. R. Pierson, Morris Township
Clarence B. Poland, Manasquan
Joseph E. Pooley, Madison
William Popp
Joseph F. Price, Morris Township
Harry C. Rapp, Carteret
William Rickenback
Lewis Rickey
K. B. Ridley, Teaneck
K. V. Ridley, Teaneck
W. H. Ritzman, Rahway
William L. Rohde, Kenilworth
T. H. Ryan, Harrison
H. H. Stager, Nutley
Geo. F. Schieder, Egg Harbor
E. Schmick, Verona
Charles Schroeder, South River
W. G. Schottinan, Jr., Livingston
Joseph Schwark, Long Branch
Henry Schwartz, Jr., South River
Fred. Schweitzer, Garfield
David Scott, Morris Township
James Sheehan, West Orange
C. E. Simpson, East Orange
A. P. Smith, Madison
Robert L. Smith, Ocean City
William J. Smith, Bridgeboro
Walter S. Speir, Madison
E. S. Spinning, Bernardsville
William Stephens
Jas. Stevens, Rahway
James Stevens, East Rutherford
Edward Tempeler, Pt. Reading
Robert K. Totten, Morris Plains
John J. Towey, Newark
Charles Townsend, Egg Harbor City
Fredk. Trowbridge, Morristown
J. A. Van Schirk, Jr., Red Bank
Wm. Van Winkle, Pine Brook
H. J. Vincent, East Orange
Thomas E. Wallace
William Wallace
T. H. Wallace, Island Heights
A. Weatherly, Ocean City
Richard C. Waver, East Rutherford
D. A. White, Montclair
Chas. W. White, Long Branch
Paul F. White, Long Branch
Chas. A. Whitney, New York City
O. P. Whitehead, Boonton
Harry A. Wierenga, Plainfield
I. R. Wilson, Madison
N. N. Wolpert, FIRE ENGINEERING
H. Wright, Bernardsville
Ralph S. Young, Raritan
John Zanet, Clifton
Otto Zimmerly, Garfield

The Round Table

(*Continued from page 386*)

will have the hose laid and the chemical wagon at the fire. We put out ninety-seven per cent. of our fires with hydrant streams. This is one of the reasons why I lay from hydrant first.

Talmar Wise, Chief, Circleville, Ohio: It is advisable, I believe, to remove nozzle end first.

As for the most efficient method for volunteer fire companies, that would depend on the number of men in the company. Most volunteer companies find it saves time and men to lay from the fire to the pumper or hydrant.

We lay from hydrant to the fire. We very seldom need more than hydrant pressure. We also find it quicker and easier for the men to stop at the hydrant. We throw a loop around the hydrant and then drive on to the fire. You then have your equipment close to the fire and save time going after ladders, axes, ropes or such things as are always needed.

Clyde Young, Chief, Eldorado, Ill.: Nozzle end first, is the best method to remove 2½-inch hose from a triple combination pumper. We have our hose placed in truck so we can run with nozzle end to the fire and pull the required amount of hose off and have the hydrant ready to connect.

A. L. Lancaster, Chief, Wilson, N. C.: The advisable method of removing 2½-inch hose from a triple combination pumper is hydrant end first. I believe this to be the most efficient method for volunteer fire companies.

We stretch our line by having one man jump at the hydrant with hose and making one lap around hydrant. We have all volunteer firemen except the truck drivers and find that we can save time in getting water to the fire. It enables us to get the proper amount slack with a fewer number of men, and in case it is necessary to use the pumper it enables us to use hydrant pressure until we can lay a second or third line to one or more hydrants. In some cases after laying a line from the hydrant to the fire we find we can handle the fire with booster equipment or chemicals which means a saving to property and protects the contents from water damage.

Chas. L. McCarthy, Chief, Worcester, Mass.: The removing of 2½-inch hose from a triple combination pumper would depend upon the water pressure at your hydrant and the distance the fire was from the hydrant.

In our particular city, we have a very high pressure (gravity) at our hydrants, ranging from 65 to 190 pounds. Consequently pumpers are used only in the case of large fires. Our lines are laid from the hydrant to the fire in practically all cases. In some instances where the hydrant is beyond the fire, hose is laid from the fire to the hydrant and either method is all right as we have a double male and female coupling on each water line, so that it can be done either way without loss of time.

Our hose is placed in the apparatus in such a way that it is ready to be laid from the hydrant to the fire at all times.

A. J. Bethancourt, Chief, Houma, La.: Remove 2½-inch hose from pumper with the hydrant end first for by doing so, we believe, the water can be discharged into the hose quicker. This method would also be best for volunteer fire companies.

We drop the line going to the fire from the hydrant so we can use only the amount of hose that is required. Should you start at the fire you may be caught without the required amount of hose.

J. K. Sargent, Chief, Huntington Beach, Calif.: This is a part paid and part call department, having two pumpers at our command. At present I have the hose on one truck to stretch from the hydrant to the fire, and on the other from the fire to the hydrant. So far I have failed to see just which one can be used advantageously. I believe if we had a hydrant in every block, it would be best and quicker to stretch from the fire to the hydrant, as this would save the return trip of the pumper to the hydrant.

There are times when both layouts have their advantage, especially when you are trying to make the best time possible.

Chas. Otterson, Chief, Napa, Cal.: I have three triple combination pumpers in service. In removing 2½-inch hose from a pumper, I remove the nozzle first. I have 2½-inch siamese connections to which are coupled two 1½-inch lines of 100 feet each and a ⅝-inch nozzle placed on each line.

We use 600 feet of 2½-inch hose and a 1⅛-inch nozzle upon arriving at a fire. If a fire is too big for a water job we use a hydrant. Where hydrant pressure ranges from 70 to 80 pounds I would reverse the layout and place the hose from the hydrant to the fire. For a volunteer fire department the hose should be placed from the fire to the hydrant, as too much time is lost in laying the hose from the hydrant to the fire.

M. V. Fritz, Chief, Victoria, Tex.: It is advisable to remove 2½-inch hose from a triple combination pumper, nozzle end first. This method should prove efficient for volunteer fire companies. We stretch our line from the fire to the hydrant, as we have found it saves time.

N. Belfy, Chief, Muskegon, Mich.: I believe it is best in removing 2½-inch hose from a triple combination pumper to take the nozzle first. I believe the plan is practical for volunteer companies.

In stretching lines we stretch from hydrant to fire, so is a second line is wanted it can be pulled back.

Otto Geisler, Chief, Leavenworth, Kans.: We do not use pumpers as we have from 120 to 150 pounds pressure. When a pumper is used, however, I believe it is best to stretch the line from the hydrant to the fire, at all times.

Jos. Waidelich, Chief, Topeka, Kans.: Ordinarily we lay a line from the hydrant to the fire, because as a general rule it is quicker. The second line, however, may be laid from the fire to the hydrant.

Wright Hedges, Chief, Atlantic, Iowa: It is advisable to remove 2½-inch hose from a triple combination pumper nozzle first. We stretch our line from fire to hydrant. Eighty-per cent. of our fires are extinguished with chemicals.

Elmer Keith, Chief, Corsicana, Tex.: Hose should be removed nozzle first from a triple combination pumper. In stretching our line, we stretch from the fire to the hydrant so as to get lines placed while they are being connected.

Connecticut Assembly Amends Pensions

Passed by the 1931 General Assembly in session at Hartford, Conn., and now awaiting the signature of Governor Wilbur L. Cross, a new piece of legislation will result in placing fifty widows of New Haven, Conn., firemen on the pension rolls. It will mean an increase of $15,000 a year in the amount of pensions to be paid out of the city's pension fund.

The amendment to the pension law of New Haven was asked in order to include under the benefits of the pension law, such widows of firemen who were not included in the provisions of the law passed in 1929. This law provided that the pensions that went to firemen on the retired list and which stopped with the demise of the principals should be extended to their widows and children. That law was not made retroactive so as to provide for the widows of those firemen who died prior to 1929.

THOMAS F. MAGNER.

North Carolina Firemen Meet in August

The annual convention of the North Carolina Firemen's Association will be held in Statesville, N. C., the week of August 24, 1931, in accordance with a decision reached by officials of the state organization.

The conference was attended by State President Robert C. Whitley of New Bern, and State Secretary John L. Miller of Concord. The local firemen were represented at the business meeting by Chief C. L. Gilbert, John C. Lewis, Secretary-Treasurer, and B. M. Garrison, Assistant Chief.

A tentative program was arranged calling for the opening of the convention Monday, August 24 and closing Thursday evening. August 27, following the tournament Thursday. It was decided that the reel races would begin at 10 o'clock Thursday morning August 27, and the truck races would start at 2 o'clock Thursday afternoon.

D. G. SPENCER, JR.

Griswold, Pa., Insures Firemen—Arrangements have been made for insuring each member of the Fire Department in Griswold, Pa.

Chief Henry Serves City 22 Years—Chief W. C. Henry of Hugo, Okla., has completed twenty-two years service with the Fire Department. It is believed that he will be reappointed chief by the new city council.

Oakley With Buffalo Fire Appliance Corp.—F. G. Oakley, formerly with the Sanford Motor Truck Company, is now affiliated with the Buffalo Fire Appliance Corporation, Buffalo, N. Y.

Box 52 Association Meets

The annual Metropolitan Chiefs' Night of the Box 52 Association, Inc., of Boston, Mass., was held on May 20 in the Hotel Bradford, with more than 150 persons attending.

A buffet supper was served after which motion pictures of fires in New York, Detroit, and in Berlin, Germany, were shown by Albert G. Dreyfous, Honorary Battalion Chief and Official Photographer of the New York Fire Department.

Chief Henry A. Fox, of the Boston Fire Department; Police Commissioner Eugene C. Hultman, of Boston; Chief Frank E. Tracy, of Woburn, Mass., President of the Fire Chiefs' Club of Massachusetts and about fifty members of the latter organization were among those present.

A telegram of greeting from Chief Joseph N. Sullivan, of Utica, N. Y., President of the International Association of Fire Chiefs, was read by President P. Hildreth Parker, of the Box 52 Association, who presided at the meeting.

Callahan Heads Iowa Fire Chiefs

Chief H. J. Callahan of Fort Dodge, Ia., was re-elected President of the Iowa Fire Chiefs' Association at the annual meeting held in Ames, May 21. The one day convention was held in connection with the Iowa Firemen's short course held at the Iowa State College.

The other officers of the association who were re-elected are Chief Joseph Dobson, Keokuk, Vice-President; Chief Lyn Morris, Ames, Secretary-Treasurer.

A number of important matters were considered. Disapproval was voiced concerning the automatic gasoline vending stations. A committee was appointed to see if a permanent drill tower could be erected at the college for the use of the men who assemble each year during the short course.

Massachusetts Passes Shut-Off Bill

Massachusetts Fire Chiefs are pleased with the action of Governor Ely in signing the bill requiring the installation of automatic shut-off devices on all gas meters installed or replaced in the Commonwealth after January 1, 1931. This measure was introduced by Senator James J. Twohig and had the endorsement of the Fire Chiefs' Club of Massachusetts.

The bill, known as Senate No. 399, reads as follows:

"An act requiring the installation of certain equipment in connection with gas meters to prevent or retard the escape of gas in case of fire: Be it enacted by the Senate and House of Representatives in general court assembled and by authority of the same, as follows: Chapter 164 of the general laws is hereby amended by inserting after section 103 the following new section:

"Section 103 A. No gas company or municipality distributing gas shall, after January 1, 1932, install or replace a meter for the purpose of measuring gas supplied to premises for illuminating or other purposes unless there shall have been attached to the intake pipe leading to the meter, in accordance with regulations to be prescribed and enforced by the department, an automatic device designed to prevent or retard the escape of gas in case of fire, and approved as to design and construction by the department."

In commenting on the legislation Senator Twohig recently said:

"I am not seeking any glory in this matter. It all belongs to the Fire Chiefs of Massachusetts. The victory is theirs and I am happy to have taken a small part in it. As I said at the meeting of the chiefs at the Parker House in presenting Chief Allen with the pen used by the Governor, if this bill tends to save the suffering of one fireman and is the means of keeping one family intact, then I shall be repaid.

"I only hope that the fire chiefs in other parts of the country will learn of the fight won here in Massachusetts and have this very meritorious piece of legislation enacted in other states."

Senator Twohig worked hard to obtain the passage of the measure and was aided by Chief Selden R. Allen, of Brookline, President of the Fire Chiefs' Club of Massachusetts; Chief Daniel B. Tierney, of Arlington, Chairman of the Legislative Committee of the club; and by Chief John W. O'Hearn, of Watertown, Mass., Secretary of the New England Association of Fire Chiefs, as well as by several other fire officials who were on hand at the State House to testify in behalf of the bill. The department referred to in the measure is the State Department of Public Utilities.

HARRY BELKNAP.

Temple, Tex., May Erect Fire Station—Temple, Tex., is considering the erection of a fire station with a jail annex.

Youngstown Starts on Fire Alarm System—Youngstown, Ohio, has started work on its new $60,000 fire alarm system. It is expected that the system will be in operation by the end of June.

The Volunteer Fire Department

(*Continued from page* 384)

given and the reduction in insurance rates that the department has made possible, they are often willing to purchase several tickets for the dance.

If the department does not hold too many entertainment ventures during the year, it is wise to have a souvenir program for the dance. The program will more than pay for the dance expenses so that the ticket sale may be termed velvet. *Do not employ professional solicitors* to secure advertisements. The business houses and individuals who contract for space like to believe that all the money paid will be for the benefit of the local department.

A large volunteer department in New York State, secured a well known recording orchestra, contracted for the state armory, and staged a concert and dance. This pleased the young and older persons. Every seat was filled. After the concert, the seats were pushed to one side and the floor was arranged for dancing. By ten o'clock the older folk went home satisfied after hearing a popular concert and watching the dancers. The dancers remained until they were either foot weary or mentally tired. Space was rented for a refreshment stand.

Door prizes are often given. Usually the items to be awarded are donated by local merchants. Therefore, the question of whether or not the department should give door prizes will depend upon how many functions are held for which the support of the business population is solicited. Although the merchants are an asset to the community, they should not be forced to contribute too heavily for the privilege of being in a position to serve the residents. And furthermore, when men canvass the residents for tickets, advertisements or prizes, they should remember that the population cooperate of their own free will. There should be no talk of boycotts or of refusing to give fire department service. Firemen must be gentlemen at all times.

If there is a vacant lot near the dance hall, it is likely that the firemen can secure the use of the ground for the night for parking space. The usual parking fee for automobiles is twenty-five cents.

All firemen attending the dance should wear their uniform. The public is always interested in the type of young men who are members of the volunteer Fire Department. A floor committee should be on hand to prevent disorder. Door checks should be given out to prevent anyone from crashing the gate.

Should you desire your dance to be an outstanding success, include a number of odd dances—balloon dance, lucky number dance, Paul Jones and anything that will cause the dancers to become better acquainted.

Tag Day

Tag Day is very much overdone. Most communities have Red Cross Day, Poppy Day, Hospital Day and so forth. It is much easier to secure funds where something is given in return, even though the person never claims the privileges afforded by the ticket purchased.

One department in Pennsylvania secured funds by selling fish from house to house, but such a plan is out of the usual run of fund raising schemes.

Publicity Is Important

Regardless of the venture adopted for raising funds, it is necessary to advertise, advertise, and then to do some more advertising. Insert stories concerning the coming event in the local newspaper many weeks before the appointed day arrives. Cards should be posted in all the neighboring villages and attached to the rear of automobiles. Even windshield stickers are a help.

Other departments have demonstrated that it is possible to raise appreciable sums of money, and what one has done another can duplicate.

Acknowledgment

Indebtedness is hereby acknowledged to the following chiefs for their cooperation in the preparation of this article, the first of a series to be published that will be of distinct benefit to volunteer firemen: George E. Dietrich, Beaver County, Pa.; E. D. Yeck, Flora, Ill.; Robert C. Howe, Fort Bragg, Cal.

Armonk, N. Y., to Buy Apparatus—Armonk, N. Y., voted to issue $16,000 bonds to purchase fire apparatus.

WESTCHESTER CHIEFS HOLD ANNUAL MEETING AND DINNER

Many City Officials of the County Attend the Annual Meeting and Speak to the Members — Large Attendance

THE second annual meeting and dinner of the Fire Chiefs' Emergency Plan, of Westchester County, N. Y., was held at 8:30 p.m., May 21, at the Elks' Club, White Plains, N. Y. This was one of the best attended meetings the Plan has held, there being over one hundred and fifty present, including a number of officials from the various Westchester County municipalities. Grace was said by Mayor Burd, of Mt. Vernon, after which Secretary E. Riviere, acting as toastmaster, called upon the men seated at the speakers' table to rise in turn, in the following order: Mayor Frederic McLaughlin, White Plains; President McTavey, of the Plan; Mayor Burd, of Mt. Vernon; Chief Abbott Griffen, White Plains; Judge Harry M. Hoop, Bronxville; Fire Commissioner Merkle, Chief J. M. Brennan, Pelham Manor; Deputy Commissioner Hayes, Mt. Vernon; Chief D. Wiley Travers, Peekskill; Assistant District Attorney Dempsey, of Westchester County; Assemblyman Ralph Gamble, Larchmont; Chief Victor T. Veit, Stamford, Conn.; Chief Towle, "Father of Plan," Larchmont; Commissioner Walter Watkins of Larchmont; Chief John Gibson, Mt. Vernon; Deputy Chief Marshal, New York City; Supervisor Bennett, Eastchester Township; Fire Commissioners Lewis, Goss and Watson, White Plains, and Chief James Sullivan, Greenwich, Conn. Secretary Riviere spoke of the unavoidable absence of Chief James J. Mulcahey, of Yonkers, and referred to the splendid work that the Chief had done in connection with his various activities in the Plan.

At the business meeting the following officers were unanimously elected:

President, Chief D. W. Travis, Peekskill; 1st Vice-President, Chief A. Steuhl, Bronxville; 2nd Vice-President, Chief James Sullivan, Greenwich; 3rd Vice-President, Chief Chet Dobbs, Scarsdale; Secretary-Treasurer, E. Riviere, Larchmont.

A handsome smoking set was presented to the retiring President, Chief McTavey. Judge Hoop, of Bronxville, presented the new banner of the Plan.

Among those who addressed the meeting were Mayor Burd, of Mt. Vernon, Mayor McLaughlin, of White Plains and Assistant District Attorney Dempsey, of Westchester County. The members of the Elks Lodge entertained the members with an excellent minstrel show.

It has been decided to hold one more meeting for the season. It will be held on Wednesday, June 17, at Fire Headquarters, Mt. Vernon, N. Y.

Survey of Fire Schools

(*Continued from page* 390)

This educational campaign is carried on under the direction of the New York State Conference of Mayors and the New York State Fire Chiefs' Association. Similar schools will be held during the ensuing year.

Nevada—No school has been held and no attempt has been made to hold one.

North Carolina—A fire school was held under the auspices of the North Carolina Firemen's Association and was participated in by two of our committee members; 290 firemen from 44 fire departments were present. A similar school will be held this year at Durham, April 14 to 16.

North Dakota—No school has been held and no attempt has been made to hold one.

Ohio—School held September 15 to 19 at Columbus, under the auspices of the University of Ohio, with the cooperation of the Ohio State Firemen's Association and the Ohio Inspection Bureau; number in attendance, 250. A school will be held this year under the same direction and the date is to be decided later.

Oklahoma—No school held, but organization perfected for instruction to be carried on during the entire year; twenty-five cities have enrolled and as soon as the administrative machinery can be set in motion the school work will start. The general organization committee for the promotion and organization of the training school, include the Executive Board of the Oklahoma State Firemen's Association, a committee from the Oklahoma Municipal League, and representatives from the Extension Departments of the Oklahoma University and the A. and M. College. Texts for instruction are in the process of preparation and portions of them have already been printed.

Oregon—Plans are now under way for giving an extended course of instruction at Portland under the supervision of the Portland Fire Department.

Pennsylvania—No school has been held and no attempt has been made to hold one.

Rhode Island—No school has been held and no attempt has been made to hold one.

South Carolina—No school has been held and no attempt has been made to hold one.

South Dakota—School held at Madison, June 23 to 27, under the auspices of the State Fire Marshal's Department; enrollment, 266. The program has been completed for a school to be held June 1 to 4.

Tennessee—No school has been held although there has been some activity toward providing instruction for firemen in this state.

Texas—Two schools were held as follows:
College Station, May 5 and 6, under the auspices of the Engineering School of the Agricultural and Mechanical College of Texas; firemen registered, 125.
San Angelo, Texas, June 10 to 12, under the auspices of the Texas Firemen's and Fire Marshals' Association; 1,800 were present.
Plans have been completed for holding a school April 27 to 29 at the Texas Agricultural and Mechanical College.

Utah—No school has been held and no attempt has been made to hold one.

Vermont—No school has been held and no attempt has been made to hold one.

Virginia—No school has been held and no attempt has been made to hold one.

Washington—A school was held at Seattle under the auspices of the International Association of Fire Chiefs and a similar program will be carried out this year.

West Virginia—No school was held during the past year, but a program has been completed for a school which is to be held at Morgantown, July 27 to 30.

Wisconsin—School held in Madison, June 24 to 27, under the direction of the University Extension Division of the University of Wisconsin with the cooperation of the Industrial Commission of Wisconsin, Wisconsin State Firemen's Association, Wisconsin Paid Firemen's Association, the Wisconsin Association of Fire Chiefs, and the Wisconsin Inspection Bureau; 465 firemen attended. Plans have been completed to hold a school at the University of Wisconsin at Madison, June 23 to 26.

Wyoming—School held in Casper, June 19 and 20, under the auspices of the Fire Service Extension Committee with the University of Wyoming and the Mountain States Inspection Bureau cooperating; firemen registered, 110. Plans are now under way to hold a similar school in 1931.

CORRESPONDENCE

A Word of Warning

To the Editor:

A man giving the name of John Barker and falsely representing himself as a former Fire Chief of North Carolina, is traveling around and imposing upon fire departments throughout the country from the Atlantic to the Pacific. Sometimes he refers to himself as a private in a fire department and as an ex-soldier, and, too, he pretends to be deaf and dumb. So far as I know, he is not even a citizen of North Carolina. And most of what he says is untrue.

As I have received numerous letters from different fire chiefs stating that he has called upon them with these misrepresentations, your kindness in publishing a word of warning about this man will be greatly appreciated, I know, by other fire chiefs, as well as myself.

FRANK D. SHAW,
May 19, 1931. Chief of Fire Dept., Greensboro, N. C.

San Diego to Have More Apparatus—The state will provide two new pieces of fire apparatus for San Diego county, Cal.

Calmar, Ia., Wants Rural Apparatus—Contributions are being received from farmers in the vicinity of Calmar, Ia., towards the purchase of fire apparatus. Each twenty-five dollars subscription entitles the farmer to fire protection during the life of the apparatus.

Dressy Uniform Shirts

Made of medium blue TubTest (fast-color) chambray or dark blue TubTest percale; with collar attached or with two detachable laundered collars to match. This SIGNAL, now specified by Fire Chiefs all over the country, is favored because it is both dressy and practical.

John Rissman & Son
SIGNAL SHIRT DIVISION
RACINE, WISCONSIN

QUALITY FIRST — Signal — UNION MADE

REG. U.S. PAT. OFF.

T. P. Treadwell, Chief of Fire Dept., Fort Collins, Colo.

REDUCE WATER DAMAGE and INSURANCE RATES With Shuredry SALVAGE COVERS

"May I have eight more of your folders 154-R-1. They are just what I have been looking for to use during Fire Prevention Week at the grade schools to show the children what we mean by the salvage method used by our department. We have twelve of your standard SHUREDRY covers in service, and our next order will be for SHUREDRY GREEN-BAK, as they don't show the dirt so plainly as do our white ones. But at that, we would not sell them back to you for three times their cost if we could not get them replaced."

T. P. Treadwell

75% of the nation's annual half-billion-dollar fire loss is traceable to Water Damage. Send for Shuredry samples today.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
Atlanta St. Louis Dallas
Minneapolis Brooklyn New Orleans Kansas City, Kan.

If Every Property in Your Vicinity had A·D·T· Service!

WHAT a saving—for the city—for the owners—and for insurance companies!

Fires would be detected and reported promptly—either by the Aero Automatic System—or by supervised watchmen on the A. D. T. Manual Alarm. No time lost in reporting fires.

All alarms would give a definite location. No time lost in finding the fires!

All parts of all Sprinkler Systems would be operative at all times. No chance for fires to gain headway at important points!

All watchmen would be compelled to perform their duties at all times. You could depend on frequent patrol and inspection of industrial plants!

The right combination of A.D.T. Services for any plant often saves money and always increases the measure of protection afforded.

Bulletins on all types of A. D. T. Protection available, on request.

CONTROLLED COMPANIES OF
AMERICAN DISTRICT TELEGRAPH COMPANY
155 SIXTH AVENUE · NEW YORK N.Y.

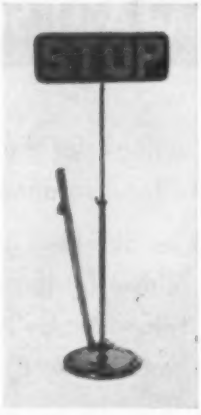
5461

"CENTRAL" TRAFFIC-STOP SIGNAL

A Portable STOP Signal, Brilliantly Illuminated by a Red Traffic-Stop Flare Light

Burning 30 minutes

All Traffic STOPPED around FIRES, FALLEN WIRES, BROKEN WATER MAINS, DANGEROUS BUILDINGS, Etc.



Efficient Fire Lines Without Ropes

Friction Cap—No Matches Required

Carried on Ladder Trucks, Service Cars

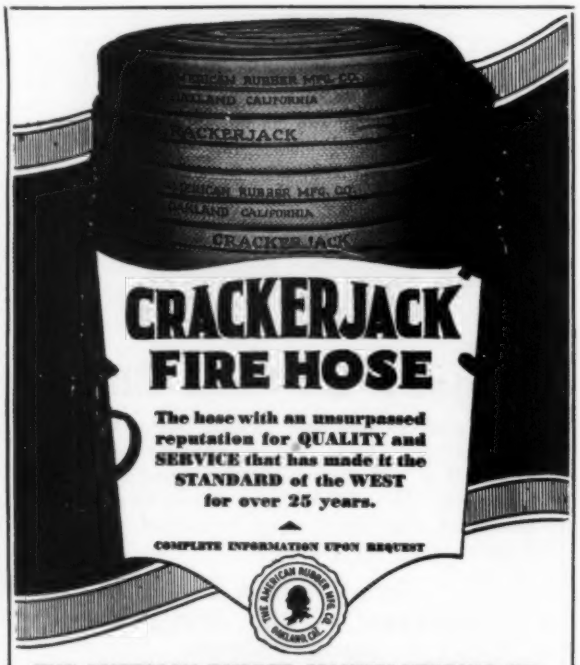
COMPLETE OUTFIT consists of:
One Aluminum STOP Sign, 6" x 16"
One Cast-Iron Base with Standard
One Holder for Apparatus
One Flare Light Holder
Twelve 30-Minute Red Flare Lights

Price (complete) $12.00

Extra Flare Lights $4.50 per dozen

FOR SALE BY ALL DEALERS

Central Railway Signal Company, Inc.
NEWTON, MASS.



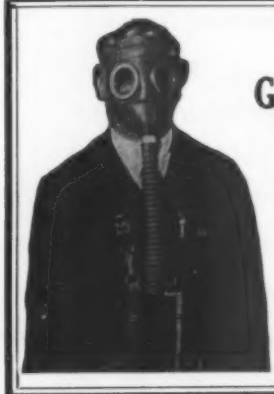
CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.

COMPLETE INFORMATION UPON REQUEST

THE AMERICAN RUBBER MANUFACTURING CO.
FACTORIES and GENERAL OFFICES:
OAKLAND, CALIFORNIA
SALES OFFICES:

San Francisco, Calif. Matson Bldg.
Los Angeles, Calif. 458 So. Spring St.
Boise, Idaho P. O. Box 1422
Spokane, Wash. 112 So. Monroe St.
Portland, Ore. 802 Bedell Bldg.
Kansas City, Mo. 5547 Lydia St.
Salt Lake City, Utah 149 W. Second So. St.
Dallas, Tex. 3933 Commerce St.
Utica, New York 109 Harter Place
Baltimore, Md., 407 Munsey Bldg.



New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

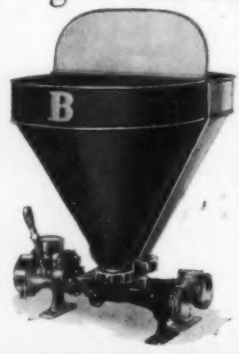
Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.
156 Chambers St., New York
D. A. Woodhouse, Pres. and Gen. Mgr. George J. Kuss, Vice-Pres. and Treas.

Fight OIL Fires with FOAM



The increasing number of oil hazards in every city has made continuous Foam Ejectors and Chemicals standard equipment with all up-to-date Fire Departments.

NATIONAL Type 6 Ejector weighs only 37 lbs., but will produce 600 to 800 gallons of foam per minute. Other models up to 3,000 gallons capacity.

NATIONAL FOAM SYSTEM, INC.
Philadelphia
New York Chicago Tulsa

Saves time - *and costly hose*

No. 1. (Capacity 3 to 7 tons; weight, each, 72 lbs.)

No. 2. (Capacity 3 to 12 tons; weight, each, 118 lbs.)

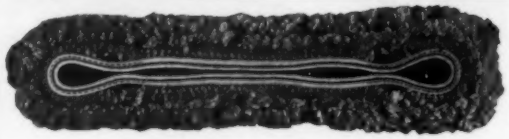
Complete information and Prices on request.

It's often necessary to move apparatus at a fire. Automobile traffic hates to be held up by a line of hose stretched across the right of way.

Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

The Wausau Protector is a big time and money saver—easy to handle and carry. Order a set today, or write us for particulars.

Wausau Fire Hose Protector Co.
1520 Harmon Place, Minneapolis, Minn.



BI-LATERAL FIRE HOSE

is a modern construction

It is always reliable for fire service no matter how old, if the jackets are intact.

The one hose that does not require frequent replacements.

BI-LATERAL FIRE HOSE COMPANY
20 N. Wacker Drive, Chicago, Ill.
15 Park Row, New York, N. Y.

PROPOSED IMPROVEMENTS

Portsmouth, Ohio—Ordinance passed authorizing $45,000 bond issue for purchase of site and erection of new fire station, and purchase of new fire equipment. E. Justic, City Clerk, Robt. G. Bryan, Mayor.

Chico, Calif.—Reports state Board of Supervisors interested in purchase of fire truck for combatting Butte County Forest, brush and grass fires.

Sea Cliff, N. Y.—At election held May 19 city voted in favor of $75,000 bond issue for erection of new fire station, according to reports.

Danbury, Conn—City and township have made appropriations for purchase of additional apparatus for fire department, according to reports.

Spencertown, N. Y.—Reports state special election to be held to vote on $7,500 bond issue for purchase of fire equipment.

Solvang, Calif.—Solvang Business Men's Assn. planning new fire station, according to reports.

Colonie, N. Y.—Election to be held June 1 to vote on $15,000 bond issue for fire apparatus.

Spencer, W. Va.—Reports state purchase of adequate fire equipment for fire department being considered.

Position Wanted

Salesman, age 37, married, over eight years experience selling fire apparatus and hose, desires position anywhere in United States or any other country, but preferably southwestern states. Address: Box 395, c/o FIRE ENGINEERING, 24 West 40th St., New York City. 5-13, 27

CONVENTION DATES

May 25-27—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Oklahoma City, Okla. Secretary-Treasurer Charles Slemp, 820 East 19th Street, Oklahoma City.

June—MADISON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Sylvan Beach, Wis. (Definite date not decided.)

June 2-4—NORTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tupper Lake, N. Y. Address, Charles Hayes, 116 Benedict Ave., Watertown, N. Y.

June 3-5—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 9th Annual Convention (Combined with Firemen's Short Course), Clovis, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 6-7—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. Next Meeting, Lompoc, Cal. Secretary-Treasurer, Charles E. Smith, Chula Vista, Cal.

June 8-9—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 26th Annual Convention, Aiken, S. C. (Tentative date.) Secretary, R. S. Hood, Sumter, S. C.

June 8-10—KANSAS STATE ASSOCIATION OF FIRE CHIEFS and KANSAS STATE FIREMEN'S ASSOCIATION. 15th and 44th Annual Convention, respectively, Topeka, Kan. Also 3rd Annual Fire College and 6th Annual Convention, Women's Auxiliary. Secretary, Chief K. D. Doyle, Wamego, Tex. Chairman, Fire School Committee, E. J. Stewart.

June 9—NORTHWEST ARKANSAS FIREMEN'S ASSOCIATION. Next Convention, Springdale, Ark. Secretary-Treasurer, F. B. Brock, Bentonville, Ark.

June 9-10—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 59th Annual Convention, Owatonna, Minn.; also June 8 Annual Convention the Minnesota Volunteer Firemen's Benefit Association, same place. Secretary, Fred Pfaender, New Ulm, Minn.

June 9-11—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 25th Annual Convention, Hotel Queensbury, Glens Falls, N. Y. Secretary, Chief J. H. Golden, Fire Department, Cohoes, N. Y.

June 9-11—TEXAS STATE FIREMEN'S ASSOCIATION, 55th Annual Convention, Bryan, Tex. Secretary, Olin Culberson, Edna, Tex.

June 9-12—OHIO FIRE CHIEFS' ASSOCIATION. 14th Annual Convention, Akron, Ohio. Secretary, Chief Philip J. Harty, Youngstown Sheet & Tube Company, Youngstown, Ohio.

June 10-12—FLORIDA FIRE COLLEGE. 2nd Florida Fire College, Sebring, Fla. Address, Florida State Firemen's Association Fire College Committee, Chief Anderson, Ft. Myers, Fla., Chairman.

June 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Flagstaff, Ariz. Secretary-Treasurer, H. W. Reggin. P. O. Box 813, Prescott, Ariz.

June 11-13—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 25th Annual Convention, and Parade, Upper Darby, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 16-18—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 42nd Annual Convention, Schuylersville, N. Y. Secretary, Chief Chris W. Noll, Poughkeepsie, N. Y.

June 17—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 59th Annual Convention, Port Clinton, Ohio. General Chairman of Convention, Harry Smith, Supt. Water Works, Port Clinton.

June 17-18—MARITTME FIRE CHIEFS' ASSOCIATION. 16th Annual Convention, St. Stephen, Charlotte County, New Brunswick, Can. Secretary-Treasurer, Capt. Kenneth J. McRae, Puggsley Bldg., Saint John, N. B.

June 17—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. Regular Meeting (Last of Season), Fire Headquarters, Mt. Vernon, N. Y. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

June 17-19—WISCONSIN STATE FIREMEN'S ASSOCIATION (Volunteer). 44th Annual Convention, Kilborne, Wis. Secretary, E. Philip Mueller, Jefferson, Wis.

June 17-20—WASHINGTON STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Port Angeles, Wash. Secretary, S. H. Jenkins, Bellingham, Wash.

June 19-20—EASTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Madison Hotel, Atlantic City, N. J. Secretary, Ex-Chief F. E. Soulé, Coatesville, Pa.

June 23-24—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Meeting, Athens, Ga. Secretary, John L. Miller, Concord, N. C.

June 23-26—FIRE COLLEGE OF ILLINOIS FIREMEN'S ASSOCIATION. 7th Annual Fire College, University of Illinois, Urbana, Ill. For information, Prof. I. H. Provine, Dept. of Agriculture, University, or Chief R. W. Aslip, Secretary, Illinois Firemen's Association, Champaign.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Copley-Plaza Hotel, Boston, Mass. Meetings, Paul Revere Hall, Mechanics' Bldg., Huntington Ave., and Exhibits, Grand Hall, Same Bldg. Secretary, Chief John W. O'Hearn, 99 Main St., Watertown, Mass.; Chairman Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, 744 Albany St., Boston.

June 23-28—WISCONSIN SHORT COURSE IN FIREMANSHIP. 3rd Short Course, University of Wisconsin, Madison, Wis. Address, H. E. Pulver, Professor of Civil and Structural Engineering, at the University.

June 24—NASSAU COUNTY FIREMEN'S ASSOCIATION. 26th Anniversary Parade and Tournament, Great Neck, L. I., N. Y. Secretary, J. W. Lane. Chairman, Tournament Committee, Chief Henry N. Buck, Westbury, N. Y.

July 8-9—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 11th Annual Convention, and Parade, Dover, Del. Secretary, Sam H. Carson, Dover, Del.

July 8-10—MARYLAND STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, Ocean City, Md., Secretary, George R. Lindsay, Hagerstown, Md.

July 13-16—MICHIGAN STATE FIREMEN'S ASSOCIATION. 57th Annual Convention, and 3rd Annual Fire College. Secretary-Treasurer, H. L. Williams, Luddington, Mich.

July 13-16—MONTANA STATE FIREMEN'S ASSOCIATION. 40th Annual Convention and Firemen's Short Course, Bozeman, Mont. Secretary-Treasurer, D. E. Moser, Bozeman.

July 22-23—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. 38th Annual Convention, Endicott, N. Y. Secretary, T. J. Murray, Cortland, N. Y.

July 31-Aug. 3—ONTARIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Dundas, Ont., Can. Secretary, W. J. Armstrong, 282 Indian Grove Ave., Toronto, 9 Ont.

Aug. 3-6—COLORADO STATE FIREMEN'S ASSOCIATION. 15th Annual Convention, Tournament and Fire College, Grand Junction, Col., Secretary, Clinton Turnbull, 303 Jacobson Bldg., Denver, Col.

Aug. 4-6—WISCONSIN PAID FIREMEN'S ASSOCIATION. 24th Annual Convention, Oconto, Wis., Secretary-Treasurer, William Schultz, Sheboygan, Wis.

Aug. 4-7—DOMINION ASSOCIATION OF FIRE CHIEFS. 23rd Annual Convention, Shawinigan Falls, P. Q., Can. Secretary, Chief James Armstrong, Kingston, Ont., Can. Exhibits, Chief R. N. O. Harrington, 4,000 Marlowe Ave., Notre Dame de Grace, Montreal.

Aug. 5-7—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Santa Rosa, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal. Chairman, Convention Committee, Chief William H. Muenter, Santa Rosa, Cal.

Aug. 11-13—INDIANA FIREMEN'S ASSOCIATION. 14th Annual Convention. Evansville, Ind. Secretary, Clem Smith, P. O. Box 520. Terre Haute, Ind.

Aug. 12-14—VIRGINIA STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Winchester, Va. Secretary, E. K. Landis, Pulaski, Va.

Aug. 18-21—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 59th Annual Convention, Troy, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 21-22—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 48th Annual Convention, Cameo Theater, Campbell Ave., West Haven, Conn. Secretary, D. W. Harlord, 10 Chestnut Street, So. Norwalk, Conn.

Aug. 24-27—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 44th Annual Convention and Tournament, Statesville, N. C. Secretary, John L. Miller, Concord, N. C.

Sept. 1-3—KENTUCKY FIREMEN'S ASSOCIATION. 12th Annual Convention, Louisville, Ky. Secretary, Captain S. G. Render, Fire Department, Louisville, Ky.

Sept. 3-4—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Portage, Wis. Secretary, Chief A. J. Rahn, Two Rivers, Wis.

Sept. 8-10—ILLINOIS FIREMEN'S ASSOCIATION. 44th Annual Convention, Murphysboro, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill. Exhibit information, Chief Albert Herring, Murphysboro. Also, 1st Annual Convention, Ladies' Auxiliary of Illinois Firemen's Association. Secretary, Mrs. R. W. Alsip, Champaign.

Sept. 15-16—IOWA FIREMEN'S ASSOCIATION and IOWA FIREMEN'S FUNERAL AID ASSOCIATION. 54th Annual Convention, Audubon, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 19-22—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 38th Annual Convention, Royal Hawaiian Hotel, Honolulu, T. H. Secretary, Jay W. Stevens, 1014 Merchants Exchange Bldg., San Francisco, Cal.

Sept. 22-24—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Lynn, Mass. (Sessions at New Ocean House, Swampscott). Secretary, Daniel J. Looney, Room 1043, Old South Bldg., Boston, Mass.

Oct. 6-8—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

Oct. 20-22—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Norfolk, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

Oct. 20-22—RAILWAY FIRE PROTECTION ASSOCIATION. 18th Annual Meeting, Cleveland, Ohio, Secretary-Treasurer, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

May 11, 1932—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 3rd Annual Convention, Cape Charles, Va. Secretary, W. A. Karpa, Cape Charles, Va.

FALSE ALARMS

—*Drawing by "Art" Espey*

News Item: "After being viewed with disapproval, a number of 4th Class Steamers were considered totally unfit."

TRUE LOVE

For some time a little boy had been peering under the chain across the open door of the fire station. He was deeply fascinated at what he saw. Suddenly he realized that he was all alone and didn't know the way to his home. Some of the firemen started to question the little fellow. A number of false starts were made.

"What name does your mother call your father?" asked one.

"Why she don't call him any names," answered the youngster, "she likes him."

The head of the family is the one who gets the headaches on the first of the month.

MERELY CURIOUS

John had been to a department smoker. He had been honest about it and had told his wife where he went that night. The next morning at the breakfast table he said:

"One rather odd thing happened. The Fire Commissioner got up and left the table because some fellow told a story he didn't approve of."

"How noble of the Commissioner," said the wife, "and—what was that story, John?"

A bachelor is a man who doesn't have to hang all his clothes on one hook in the closet.

OLD FAITHFUL

At the bridge club, the unfortunate wife of a fire buff was describing her domestic problems.

Her friend asked, "Is your husband the sort you can depend upon?"

"He certainly is. When he says he's going out to a fire, he goes."

An adult is a person who has stopped growing at both ends and has started growing in the middle.

WORTH IT

A very ambitious and perhaps also very inexperienced attorney was arguing an important case in court. He was trying to prove that his client did not "sell out to the insurance company." In the heat of excitement, he said some things that offended the judge.

"Silence," roared the judge. "I fine you five dollars for contempt of court."

The enraged attorney, took out his billfold and placed twenty dollars on the desk. He said:

"Five dollars doesn't begin to express my contempt for this court."

That fellow is so stingy he smokes twenty cigarettes out of every package he buys.

TIME'S THE THING

In a Pacific Coast town, all the cleaning and housework in the central fire station was done by a Chinese servant. He had worked without a holiday for some time. The servant decided to take a day off and visit friends in the next city. He approached a window in the railroad station and asked:

"What timee next tlain go?"

"Two-two," answered the ticket seller.

"You no understan'; I know tlain go too-too. I no ask how he go; I ask when."

After all, the best jokes aren't printed. No one would dare.

SAFETY FIRST

A lecturer who attempted to create a sense of art appreciation in the minds of some high school students, ended his lecture with the question:

"If the National Gallery were on fire, which five pictures would you attempt to rescue?"

He pointed out one student in particular.

"The five nearest the door," was the answer.

As heard over the radio: We will pause while Miss Nozzle sings, "My Love Lies Sleeping," with a male chorus.

OVERBALANCED

A building was in a bad state of repair—the fire escapes were old and rusted. One night this building caught fire. The owner of the building was looking on, watching the flames consume the structure. On the fire escape were two firemen playing a stream of water into the spreading flames. Suddenly the fire escape dropped and with it the two firemen.

The owner of the building went to a telephone, called his wife, and made the following report:

"Well, Maggie, it's all over. The fourth mortgage just fell from the building and there were two firemen on it."

Cashing a personal check is about the hardest thing in the world. People either don't know you well enough or they know you too well.

—*Courtesy, Elks Magazine*

"Hi, Joe! Whaddaye say?"

Every FIREMAN'S car should be equipped with one of these good looking

AUTO PLATES

SAVE time in heavy traffic—avoid annoying delays in responding to calls. You can attach one of these good looking, durable emblems to the radiator of your car in a jiffy. Just tear out this ad—and note in the margin what lettering you want in place of "MEMBER" and "BIRMINGHAM." Send Postal Money Order.

Plates sent postpaid

$2.50

for nickel finish — or $3.75 for the gold. Order early!

Ask for our new complete catalog of Badges.

BRAXMAR BADGES

Standard for Over Fifty Years

C. G. BRAXMAR CO., 242 W. 55th ST., NEW YORK

Actual Size

The Chief Says—

"HERE'S what Chief Mason of the Bangor, Maine, Fire Department says about the Smith **INDIAN.**"

Gentlemen:

I heartily endorse the Indian Fire Pump of which I have purchased several for the Bangor Fire Department. They have proven to be of more than ordinary value to this department in the extinguishing of fires because of their portability, ease of operation, powerful stream and perfect working order at all times. All fire departments should be equipped with these Fire Pumps. It is the best apparatus we know of for grease, brush or wood fires. We also extinguished a fire inside of a poultry house with one Indian Fire Pump. I am glad to recommend the Indian Fire Pump to anyone desirous of an efficient fire extinguisher on the classes of fires named above.

Yours very truly,
E. S. MASON, Chief,
Bangor Fire Department.

Tank Curved to Fit Back

Patented

"Write the manufacturers for folder giving prices and complete information on this sturdy, low priced extinguisher that uses clear water only."

AGENTS WANTED!

The Smith INDIAN Fire Pump

D. B. SMITH & CO., 417 Main St., Utica, N. Y.
Pac. Coast Agts., Fire Protection Engineering Co.
369 PINE ST., SAN FRANCISCO, CALIF.

STERLING SIRENS

A Siren for Every Purpose

Chief Cars
Fire Trucks
General Alarm
Coding - - -

"SUPREME SINCE 1902"

The World's Oldest and Largest Exclusive Manufacturers of Sirens

The Sterling Siren Fire Alarm Co., Inc.
61 Allen St.
ROCHESTER, N. Y.

THE NEW EASTMAN DELUGE GUN

is a portable turret pipe that can be used on the ground or mounted on the apparatus. This photo shows our three-way gun used on the ground, connected to two lines of hose. This gun may be furnished with either two-way, three-way or four-way Siamese, as desired.

Write for new general catalogue

SAMUEL EASTMAN COMPANY
Concord, N. H., U. S. A.

The Most Powerful Apparatus Siren

MORE sound volume to meet modern traffic demands. This siren "clears the way for blocks ahead." Write for Bulletin 36.

FEDERAL "COASTER" SIREN

Federal Electric Company
8702 South State Street
Chicago, Illinois

JACOB REED'S SONS
Founded 1824 by Jacob Reed

FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

Write for catalog and prices.

1424-1426 Chestnut St., Philadelphia, Pa.

JOHN H. CLAY, INC.
1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

At LAST a BOW TIE for UNIFORMS that Will OUTWEAR Any Other TIE MADE!

"Once Worn—Always Worn"

Firemen, policemen and postmen all over the U. S. endorse this tie because it:

—holds its shape
—is made of genuine leather—never cracks or discolors.

Made in all colors. Write for further information or send 50c for sample.

CENTURY TIE CO.
8377 Woodside
DETROIT, MICH.

Comfort and Protection With
CAIRNS CUSHION LINED **HELMETS**

Comfortable as your old felt hat.
Won't shake off.
Never go to a fire without the protection of a good helmet.

Send for Catalog No. 227

CAIRNS & BROTHER
72 GRAND STREET Established 1836 NEW YORK, N. Y.

FELCO
Durable, Heat Treated, All Metal
FIRE BROOM
You've Never Used Anything Like It

DIGS UP DIRT AS IT SWEEPS!

Here is a Fire Broom that firemen everywhere have been waiting for. Entirely constructed of special heat treated steel, its strong spring steel bristles will not curl when exposed to heat and flame. Anyone can use it effectively for preventing spread of grass or brush fires. Specify FELCO Brooms on all new apparatus, they are an absolute necessity. Cost is low.

If your supply house does not carry them, write us direct.

FELCO, *Incorporated*
86 Aldrich Street, Providence, Rhode Island

Baker Fabric

A mass-woven jacketed hose with an exclusive weave which resists water soaking. Dries faster — equally pliable, wet or dry. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT-GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)
"Territories Available"

YOUR CATALOG PAGE

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Fire Fusees & Compounds
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Calcium Chloride.
35 Extinguishers, Carbon Dioxide.
36 Extinguishers, Soda-Acid
37 Extinguishers, Carbon Tetrachloride.
38 Extinguishers, Foam.
39 Extinguishers, Powder.
40 Fire Boat Nozzle Equipment.
41 Fire Department Supplies, General.
42 Fire Exit Devices, Door Opening.
43 Fire Alarm Posts.
44 Fire Escapes, Portable.
45 Fire Escapes, Rigid.
46 First Aid Equipment.
47 Flare Lights.
48 Flashlights, Hand.
49 Foam Generating Apparatus.
50 Foam Liquid for Extinguishers.
51 Gas Masks and Respirators.
52 Gas & Smoke Helmets.
53 Goggles, Firemen's.
54 Helmets, Metal, etc.
55 Hose Carts, Reels & Racks.
56 Hose Clamps.
57 Hose, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
64 Jacks for Fire Trucks.
65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
70 Nozzles, Pipes & Misc. Brass Goods.
71 Packings, Pumps.
72 Pads, Pole Hole.
73 Paints, Fire Resisting.
74 Priming Ether, Motor.
75 Pumping Cars, Standard.
76 Pumping Cars, Foam.
77 Pumps, Fire Apparatus.
78 Pumps, Fire Service, Stationary.
79 Pumps, Portable for Fire Protection.
80 Record Books, Fire.
81 Relief Valves.
82 Reviving Apparatus, Oxygen.
83 Rubber Clothing.
84 Salvage Covers.
85 Searchlights.
86 Shingles, Fire Retardant.
87 Shirts, Firemen's Special.
88 Sirens, Apparatus & Chiefs' Cars.
89 Sliding Poles.
90 Soda & Acid Chemicals.
91 Spark Plugs, Fire Apparatus & Motorcycles.
92 Squad and other Auxiliary Cars.
93 Sprinkler Head Shut-Offs.
94 Sprinkler Supervisory Service.
95 Sprinkler Systems, Automatic, Foam.
96 Sprinkler Systems, Automatic, Water.
97 Steam Fire Engines.
98 Syphons, Water.
99 Tarpaulins & Fire Blankets.
100 Tetrachloride Chemicals.
101 Thawing Equipment, Hydrant.
102 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
103 Tractors.
104 Traffic Clearing Systems.
105 Triple Combination Pumping Cars.
106 Uniforms.
107 Water Towers.
108 Wheels, Cushion.
109 Whistles, Fire Alarm, Compressed Air.
110 Whistles, Fire Alarm, Steam.
111 Whistles, Fire Apparatus.
112 Wrecking Trucks.

PDQ

When You're in a Hurry for Complete Information

on new equipment you plan to order for your departments, then use this page to get it P. D. Q.

Just run down the list of equipment, fill out the coupon below, and mail it to us with the numbers that indicate the equipment in which you are interested.

We will then notify reliable manufacturers of your interest in such equipment and request that without cost to you or any obligation they send you the information you desire.

They will gladly do this and it will be a pleasure for us to help you in this way. No charge whatever!

FIRE ENGINEERING, 24 West 40th St., New York City Date.....

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Nos. .....
Nos. .....
Nos. .....
Nos. .....

Name .....
Position .....
Street .....
City and State .....

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet 5-27

MAXIM FIRE APPARATUS

All Types

All Sizes

If you are thinking of buying new apparatus shortly, be sure to get all the facts about MAXIM before you decide.

Send for complete information

MAXIM MOTOR COMPANY, Middleboro, Mass.

Metropolitan Sales Agents:
The Woodhouse Manufacturing Co., 156 Chambers St., N. Y.

MORSE

FIRE BOAT EQUIPMENT

Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

Write for Catalog

Andrew J. Morse & Son, Inc.

221 High St. Established 1837 Boston, Mass.

when!

You are interested in Fire Fighting Equipment consult:

BOYER

Builders of equipment to meet your requirements.
Specializing in Apparatus for Rural Fire Fighting.

BOYER FIRE APPARATUS COMPANY
Logansport, Indiana

1000 Gallons per Minute

You can get that and more, hour after hour, with the Buffalo 1000 Gallon Pumper. Protect your community with this Super Fire Fighter.

New catalog sent on request.

Buffalo Fire Appliance Corporation

44 Central Ave. Buffalo, N. Y.

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

LARKIN Fire Department Supplies

in Service Wherever Fires Are Fought

Our general line of equipment includes every fire department supply of merit.

Larkin shut off nozzles alone are in service in over 5,000 fire departments in U. S. and Canada.

Give us an opportunity of quoting on your next requirements. Let us send you our general catalog.

THE LARKIN MANUFACTURING CO.
Established 1898 DAYTON, OHIO

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

RENSSELAER VALVE CO.,
TROY, NEW YORK.

Send Catalog "G" to

Name .....
Title .....
Street .....
City .....

Hedberg Super Sirens

"The World's Best by Test"

offer the world's greatest and most versatile range of choice involving sizes and methods of operation.

Write for descriptive matter showing sirens that have never lost in competition.

J. N. HEDBERG
321-49 W. REED ST.,
SAN JOSE - - - CALIFORNIA

ADVERTISING INDEX

Advertising Pays—in FIRE ENGINEERING

	Page
American District Tele. Co.	399
American Rubber Mfg. Co.	400
Bi-Lateral Fire Hose Co.	400
Boyer Fire Apparatus Co.	406
Braxmar Co., C. G.	403
Buckeye Iron & Brass Works	408
Buffalo Fire Appliance Corp.	406
Cairns & Brother	404
Central Railway Signal Co.	400
Century Tie Co.	404
Clay, Inc., John H.	404
Darling Valve & Mfg. Co.	377
Eastman Co., Samuel	404
Eddy Valve Co.	406
Eureka Fire Hose Mfg. Co.	Inside Front Cover
Federal Electric Co.	404
Felco, Inc.	404
Fulton Bag & Cotton Mills	399
Gamewell Co.	378
Goodrich Rubber Co., B. F.	408
Hedberg, J. N.	406
Hewitt-Gutta Percha Rubber Corp.	404
INFORMATION FOR BUYERS	405
Larkin Mfg. Co.	406
Ludlow Valve Mfg. Co.	391-392
Mack Trucks, Inc.	Back Cover
Madison Hotel	408
Maxim Motor Co.	406
Morse & Son, Inc., Andrew J.	406
National Foam System, Inc.	400
Reed's Sons, Jacob	404
Rensselaer Valve Co.	406
Rissman & Son, John	399
Smith Mfg. Co., D. B.	403
Sterling Siren Fire Alarm Co., Inc.	403
Teletype Corp.	375
Wausau Fire Hose Protector Co.	400
Wood & Co., R. D.	408
Woodhouse Mfg. Co.	400

When Ordering New Equipment

PATRONIZE THE MANUFACTURERS
YOU FIND LISTED ABOVE

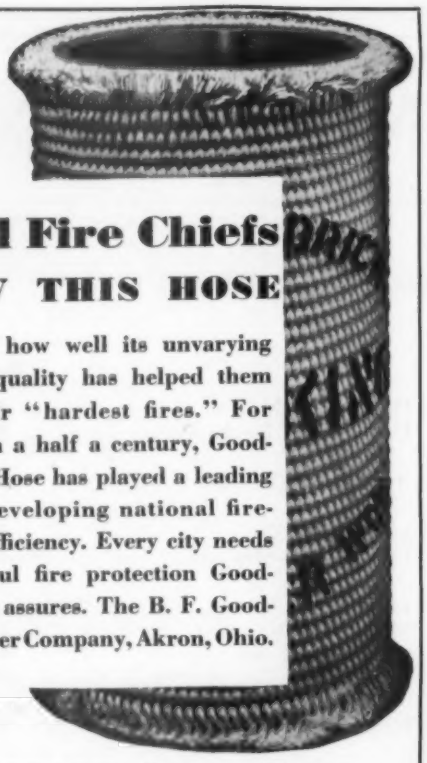
They are leaders in their respective lines and are in position to take the best possible care of your requirements.

The fact that they are using advertising space in FIRE ENGINEERING indicates they want your inquiries and will be glad to submit specifications and prices without placing you under any obligations whatever.

They are ready and anxious to serve you courteously in every way possible. Be sure to write them for complete information when considering new purchases—and place your orders with them.

They are helping us make the paper better by their advertising. You can help them and help us and help yourself by giving them your business. Let's all pull together! All will benefit.

The Publishers



Noted Fire Chiefs KNOW THIS HOSE

. . . know how well its unvarying superior quality has helped them fight their "hardest fires." For more than a half a century, Goodrich Fire Hose has played a leading part in developing national fire-fighting efficiency. Every city needs the faithful fire protection Goodrich Hose assures. The B. F. Goodrich Rubber Company, Akron, Ohio.

GOODRICH FIRE HOSE

ANOTHER B. F. GOODRICH PRODUCT

BUCKEYE

Leads Again!

Hundreds of the best fire chiefs throughout the country depend on BUCKEYE "Roto Rays" and the BUCKEYE Exhaust Whistles—the most effective combination of warning signals known to the fire field.

NOW—BUCKEYE engineers have designed a new warning unit that will afford greater protection for fire chiefs. Naturally you will be interested in this new device.

BUCKEYE will tell you all about it in an early issue—watch for BUCKEYE announcement.

BUCKEYE IRON & BRASS WORKS
326 E. Third St. Dayton, Ohio

BUCKEYE
WARNING SIGNALS THAT WARN

TEN MINUTES
to replace a broken

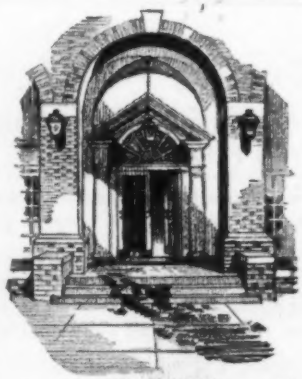
MATHEWS MODERNIZED HYDRANT
Reg. U. S. Patent Office

And you can save the expense of digging or breaking the cement paving in which it is set.

Write for the new, illustrated Mathews Modernized Hydrant booklet which gives all the details and shows an actual replacement being made.

R. D. WOOD & CO.
In business continuously since 1803
400 Chestnut St. :-: Philadelphia
CAST IRON PIPE AND FITTINGS
SAND SPUN (centrifugally cast) and PIT CAST
Reg. U. S. Pat. Off. GATE VALVES

WELCOME
Eastern Association of Fire Chiefs
—TO—
ATLANTIC CITY, NEW JERSEY
JUNE 19 - 20 - 21



Our Open Door Invites You to *The* MADISON
Headquarters Hotel

Make Reservations Early
For Information, Address

The MADISON
FETTER & HOLLINGER
Ownership Management

It will help if you will mention FIRE ENGINEERING *when writing advertisers.*

Three Books
Every Fire Officer
Should Have

Questions and Answers for Battalion and Deputy Chiefs

by Geo. J. Kuss, Former Deputy Chief N. Y. F. D., and Fred Shepperd, B.Sc., M.E., Managing Editor, FIRE ENGINEERING. It contains 210 pages of invaluable instruction for progressive fire department officers, and is indispensable for Captains, Battalion and Deputy Chiefs and other officers studying for promotion.

It contains questions from promotional examinations throughout the country, with answers by Deputy Chief Kuss (N. Y. F. D.), and Fred Shepperd. Price $2.00 — postpaid $2.15.

Questions and Answers for Lieutenant and Captain

by George J. Kuss, Former Deputy Chief N. Y. F. D., and Fred Shepperd. A 290-page book of promotional questions and answers for candidates for lieutenants and captains.

It includes questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers by Chief Kuss and our Editor. Price $2.50—postpaid $2.65.

Simplified Fire Department Hydraulics

BY FRED SHEPPERD, B. Sc., M. E.

A brand new book describing in a simplified method all of the rules and formulæ required in the solution of fire department promotional examination questions in hydraulics.

Also contains nearly 200 problems on hydraulics asked in examinations in large departments throughout the country. 170 pages fully illustrated. Price $2—postpaid $2.15.

Use This Coupon to Order Your Copies

Book Department
Case-Shepperd-Mann Pub. Corp.
24 W. 40th St., N. Y. C.

Gentlemen: I am enclosing $..... money order (or check), for which please send me the following:

..... Copies of "Questions and Answers for Lieutenant and Captain" at $2.65 each.

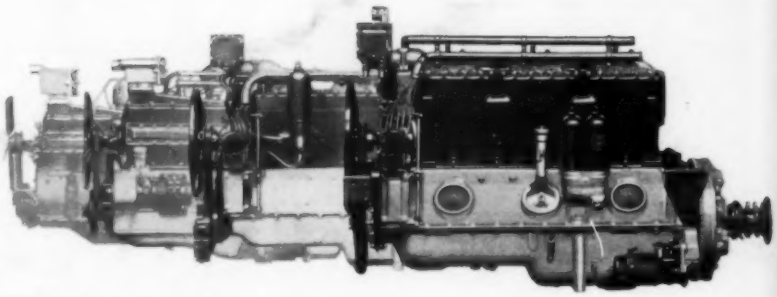
..... Copies of "Simplified Fire Department Hydraulics" at $2.15 each.

..... Copies of "Questions and Answers for Battalion and Deputy Chief" at $2.15 each

Name ..... Rank .....

Address ..... Date .....

Four 6-cylinder Engines—80 to 150 horsepower—all Mack-designed, all Mack-built for Mack Fire Apparatus.



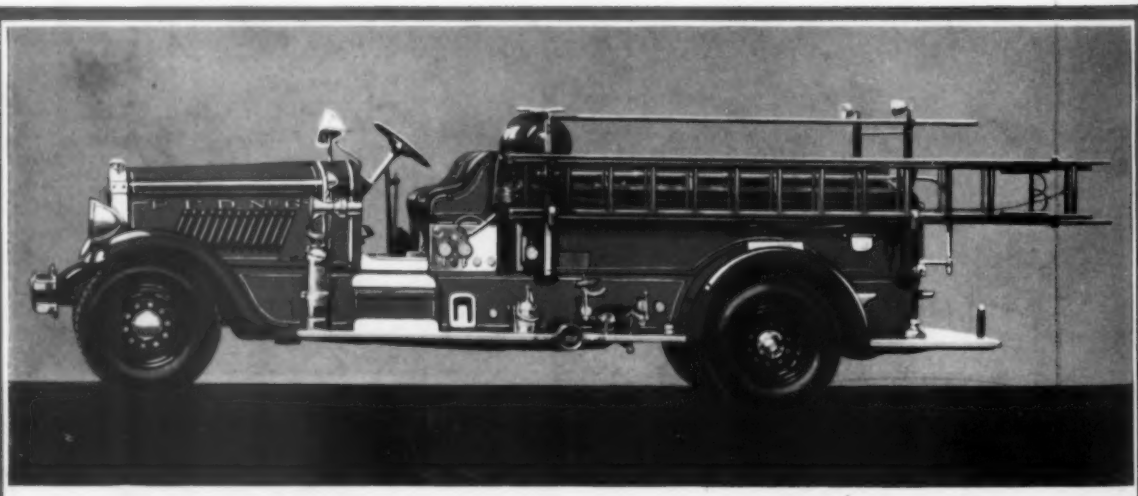
Mack alone

offers this variety of Fire Engine Power Plants

There are four types of standard Mack-built six-cylinder engines, especially designed for Mack fire apparatus. With Mack advantages of quality, economy and long life, these units offer a complete range of power sources for fire-fighting service.

Each Mack power plant is replete with Mack exclusive features and progressive fire-engineering developments. Each is completely manufactured from raw materials in the Mack factories, and Mack engines have stood the test of more than thirty-one years of arduous performance.

There are many engines available for assembled equipment, but only a Mack power plant is good enough for Mack fire apparatus. Be satisfied with nothing less than Mack quality and Mack performance for your fire-fighting needs.



Mack Type Nineteen 1,000-gallon triple combination pumping engine delivered to Poughkeepsie. N. Y., Fire Dept.

MACK TRUCKS, INC., *Fire Engine Division*, 25 Broadway, New York, N. Y.

More than 100 Direct Mack Factory Branches are equipped to service Mack Fire Apparatus in any emergency.

THERE'S A *MACK* FOR EVERY FIRE-FIGHTING NEED